REPORT ON AN AMBIENT AIR QUALITY SURVEY IN THE SUDBURY AREA

AUGUST, 1979

ARB-TDA Report No. 67-80

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AIR RESOURCES BRANCH
Technology Development and Appraisal Section
Monitoring and Instrumentation Development Unit

ARB - TDA Report No. 67- 80

Report on an Ambient Air Quality survey in the Sudbury Area

August, 1979

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TABLE OF CONTENTS

		Page
01	Summary	1
02	Introduction	2
03	Source Description	2
04	Monitoring Techniques	3
05	Survey Technique	5
06	Results	6
07	Discussion	13
08	Conclusion	14

01. SUMMARY

An ambient air quality survey was conducted by the Monitoring and Instrumentation Development Unit of the Air Resources Branch in the Sudbury area during the period August 14th to August 25th, 1979. The survey was part of a study directed by the Sudbury Environmental Study portion of the Special Studies Unit of the Air Resources Branch. The purpose of the survey was to monitor ground level concentrations of sulphur dioxide (SO_2) in the impingement zones of the plume from the 381 m Inco stack. However, a clear distinction could not always confidently be made between the emissions from the 381 m stack and the low level emissions from the entire Inco operation.

The 30-minute Ontario Standard of 0.30 ppm SO_2 was exceeded during 5 of the 18 monitoring periods located downwind of the Inco stack. The maximum 30-minute average concentration of SO_2 during the entire survey was 0.64 ppm. Under the terms of a Control Order issued on July 27, 1978 to Inco by the Ministry of the Environment, the ground level concentrations of SO_2 traceable to the entire Inco operations (including 381 m stack) must not exceed 0.5 ppm averaged over a 1-hour period. The 1-hour average SO_2 concentrations measured during the present survey did not exceed that value. The maximum instantaneous concentration of SO_2 was 2.65 ppm. An instantaneous concentration greater than 0.50 ppm was detected at 12 of the 18 downwind locations. The influence of emissions from the Falconbridge Nickel Mines smelter 15 km NE of Sudbury was considered negligible or non-existent due to favourable wind directions, except for one of the monitoring periods (#17) when the MAM unit was downwind of both Inco and Falconbridge.

Weather conditions were variable during the survey period, but all of the monitoring periods which exceeded the 30-minute Ontario Standard for SO_2 occurred on days which were predominantly sunny.

Ambient air concentrations of hydrogen sulphide (H_2S), nitrogen oxides (NO,NO_2) and ozone (O_3) were low throughout the survey period. In addition, there was no significant correlation between any of the contaminants (including SO_2).

02. INTRODUCTION

The Monitoring and Instrumentation Development Unit of the Air Resources Branch participated in an ambient air quality study in the vicinity of the city of Sudbury during the period of August 14th to 25th, 1979. The survey was conducted at the request of, and in conjunction with, the Sudbury Environmental Study of the Air Resources Branch. A mobile air monitoring (MAM) unit was used to measure ground-based meteorological parameters and ground level concentrations of several gaseous contaminants, with emphasis on sulphur dioxide (SO_2) several kilometres downwind of the 381 metre stack located on the Inco Copper Cliff Smelter.

03. SOURCE DESCRIPTION

The 381 metre stack associated with the Inco Smelter is located in Copper Cliff to the west of the city of Sudbury. The smelting of nickel and copper-bearing ore by Inco results in the emission of large quantities of gaseous sulphur dioxide, which is released through the large stack and often carried for hundreds of kilometres.

04. MONITORING TECHNIQUE

Instrumentation:-

Instrumentation housed in a 1975 General Motors Corporation Transmode was utilized to monitor the gaseous emissions from the Inco plant. This unit is equipped with an automated data acquisition system (Hewlett -Packard 9830A mini-computer) and 2 on-board power generators for fully automated, independent and continuous monitoring capabilities. The HP 9830A mini-computer performed preliminary data analyses in the field to ensure accuracy and validity; however, the final data reduction and analyses were carried out by a larger computer system located within the Air Resources Branch at 880 Bay Street, Toronto.

This mobile air monitoring (MAM) unit has permanently installed analyzers for monitoring sulphur dioxide, hydrogen sulphide, oxides of nitrogen, total hydrocarbons, methane and ozone. Meteorological instruments for monitoring wind speed, wind direction, relative humidity, temperature, barometric pressure and solar radiation are also included to form the complete instrumentation package. See Table 1 for listing of the above.

Sample Collection -

Continuous ambient air samples were taken at a constant flow rate (approximately 200 liter min^{-1}) by a probe located on top of the MAM unit. The air sample entered a manifold to which each analyzer was separately connected with a minimal length of teflon sampling line. This arrangement ensured little or no sample degradation and minimal delay time.

The MAM unit was always oriented during sampling periods in such a manner that the existing winds carried the emissions from the generator motors' exhausts away from the sampling probe inlet. The vehicle engine was always shut off during sampling periods.

Table 1: INSTRUMENTATION - GMC TRANSMODE

a) Continuous Analyzers and Calibration Sources:

Instrument	Manufacturer	Analytical Technique	Maximum Sensitivity (Full Scale)
H_2S Source	Hartmann & Braun (H&BPrufgasgenerator)	N/A**	N/A
H_2S Analyzer	H&B Picos	electrochemical	0.05 ppm
SO_2 Source	H&B Prufgasgenerator	N/A	N/A
SO_2 Analyzer	H&B Picoflux 2	conductometric	0.3 ppm
O_3 Analyzer/Source	Bendix 8002	chemiluminescent	0.05 ppm
NO_x, NO_2, NO Analyzer	Bendix 8101-B	chemiluminescent	0.5 ppm
NO_x Source	H&B Prufgasgenerator	N/A	N/A
THC, CH_4, THC-CH_4 Analyzer	Ingenieur - Produktions-Gruppe Munchen (IPM) RS-5	Dual flame ionization detector	50 ppm THC (as CH_4)
CO, THC, THC-CH_4, CH_4 source	Matheson	compressed gas	N/A

** N/A - Not applicable

b) Meteorological Instrumentation:

Instrument	Manufacturer	Scale
*Wind speed	Lambrecht gmBH	km/hr
*Wind Direction	Lambrecht gmBH	degrees
Temperature	Weather Measure (WM) T621	^oC
Relative humidity	WM-HM-11P	percent
Barometric pressure	WM-BM70-B242	millibars
Solar radiation	WM Star Pyranometer	watts/cm^2

* These wind indicators are located on top of a 10-metre retractable mast.

Meteorological Data -

Local meteorological conditions were monitored continuously by the instrumentation contained in the MAM unit and listed in Table Ib. Additional meteorological information (e.g., large scale air mass movements) was obtained from the Atmospheric Environment Service of Canada.

Calibration -

The analyzers and calibration sources were calibrated before the survey. During the survey, the analyzer calibrations were checked at least once every day using the calibration sources and built-in electronic circuitry. The calibrations varied less than 5% throughout the duration of the survey.

05. SURVEY TECHNIQUE

The gas analyzers employed in this survey were subject to a warmup period and calibration each morning during the survey. After waiting approximately ½ hour for the residual analyzer response to calibration to disappear, the MAM unit was ready to measure pollutant levels in the ambient air.

The approximate locations of the points of impingement zones were determined by communication with observers in 2 other motor vehicles. The visible plume was usually easy to locate and ambient air monitoring was initiated on those occasions when the impingement zone was accessible by the MAM unit. Air quality was continuously monitored for at least 45 minutes at each location and, whenever possible, monitoring was undertaken farther downwind as well.

06. RESULTS

Instantaneous and average concentrations of SO_2, O_3, NO_2 and NO_x are presented in TABLE 2 and TABLE 3, expressed in parts per million (ppm). Sulphur dioxide was the gaseous pollutant of primary interest; however, all of the instruments in TABLE 1 were operational during most of the monitoring periods.

Five of the 18 monitoring periods located downwind of the Inco stack resulted in 30 - minute average concentrations of SO_2 exceeding the 30 - minute Ontario Standard of 0.30 ppm. The largest 30 - minute average concentration for the entire survey period was 0.64 ppm SO_2 during monitoring period #6. The largest instantaneous concentration of SO_2 was 2.65 ppm, also occurring at location #6.

Ozone concentrations did not exceed 0.06 ppm during the survey period. The largest 30 - minute average concentration of ozone was 0.055 ppm, detected in M.P. #18 during the afternoon of August 22nd. The 30 - minute Ontario Standard for ozone is 0.10 ppm.

The concentration of nitrogen dioxide (NO_2) was relatively low throughout the survey period, reaching a maximum 30 - minute average concentration of 0.042 ppm on two occasions (M.P.'s 13, 17). The Ontario 30 - minute Standard is 0.20 ppm NO_2. The maximum instantaneous concentration was 0.316 ppm (M.P. #13).

The concentration of H_2S was relatively low during the survey period with a maximum 30 - minute average concentration of 0.008 ppm being detected (M.P. #18), compared to the Ontario 30 - minute Standard of 0.02 ppm. The maximum instantaneous concentration for the survey period was 0.05 ppm (M.P. #21). Although a summary of the H_2S and hydrocarbon concentrations and other measured parameters is not included in this section, all of the essential data can be found in the APPENDIX.

TABLE # 2 Contaminant Levels in Sudbury Units - PPM

LOCATION	Date 1979	Monitored Period	Instantaneous Concentration SO_2		Instantaneous Concentration OZONE		Maximum 1/2 Hour Average Concentration SO_2	Maximum 1/2 Hour Average Concentration OZONE	Sample Period Mean Concentration SO_2	Sample Period Mean Concentration OZONE	Scan Time (min.)
			Min.	Max.	Min.	Max.					
Sudbury # 1	AUG 14	0926 1326	0.001	0.004	0.012	0.018	0.003	0.017	0.002	0.015	2.5
" # 2	14	1517 0747	0.002	0.220	0.010	0.027	0.063	0.026	0.015	0.020	2.5
" # 3	15	1503 1633	0.005	2.08	0.023	0.030	0.37	0.027	0.182	0.027	1.0
" # 4	15	1651 1736	0.005	0.862	0.023	0.030	0.160	0.028	0.103	0.028	1.0
" # 5	15	1330 1500	0.005	0.870	0.016	0.032	0.360	0.028	0.234	0.027	1.0
" # 6	16	1539 1709	0.001	2.65	0.029	0.036	0.64	0.034	0.275	0.033	1.0
" # 7	17	1243 1328	0.008	0.538	0.038	0.049	0.090	0.045	0.068	0.044	1.0
" # 8	19	1252 1432	0.005	0.834	0.029	0.040	0.090	0.036	0.064	0.034	1.0
" # 9	19	1510 1555	0.008	0.041	0.023	0.042	0.035	0.037	0.026	0.036	1.0
" #10	19	1644 1727	0.005	1.19	0.040	0.043	0.150	0.042	0.104	0.042	1.0
" #11	19	1750 1835	0.005	0.168	0.030	0.042	0.039	0.039	0.028	0.038	1.0
" #12	19	1900 0815	0.001	0.006	0.001	0.036	0.003	0.033	0.001	0.014	2.5
" #13	20	1119 1219	0.012	0.027	0.015	0.038	0.021	0.031	0.018	0.030	1.0
" #14	20	1235 1420	0.003	0.031	0.015	0.043	0.018	0.040	0.010	0.037	1.5
" #15	20	1449 1649	0.005	0.059	0.007	0.041	0.048	0.035	0.023	0.024	1.0
" #16	20	1713 2013	0.001	0.198	0.013	0.035	0.066	0.030	0.026	0.025	1.5

TABLE # 2 Contaminant Levels in Sudbury Units - PPM

LOCATION	Date 1979	Monitored Period		Instantaneous Concentration SO_2 Min.	Instantaneous Concentration SO_2 Max.	Instantaneous Concentration OZONE Min.	Instantaneous Concentration OZONE Max.	Maximum 1/2 Hour Average Concentration SO_2	Maximum 1/2 Hour Average Concentration OZONE	Sample Period Mean Concentration SO_2	Sample Period Mean Concentration OZONE	Scan Time (min.)
Sudbury #17	Aug 21	1449	1559	0.248	0.582	0.031	0.049	0.45	0.044	0.387	0.042	1.0
" #18	22	1444	1549	0.021	0.793	0.045	0.058	0.51	0.055	0.363	0.053	1.0
" #19	22	1606	1706	0.014	0.728	0.044	0.051	0.18	0.049	0.132	0.048	1.0
" #20	22	1728	1813	0.015	0.671	0.035	0.049	0.27	0.045	0.175	0.043	1.0
" #21	25	1229	1349	0.012	0.663	0.026	0.032	0.17	0.030	0.137	0.029	1.0
" #22	25	1415	1700	0.002	0.252	0.010	0.031	0.050	0.027	0.020	0.023	1.0

TABLE # 3 Contaminant Levels in Sudbury Units - PPM

LOCATION	Date 1979	Monitored Period	Instantaneous Concentration NO_X Min.	Instantaneous Concentration NO_X Max.	Instantaneous Concentration NO_2 Min.	Instantaneous Concentration NO_2 Max.	Maximum 1/2 Hour Average Concentration NO_X	Maximum 1/2 Hour Average Concentration NO_2	Sample Period Mean Concentration NO_X	Sample Period Mean Concentration NO_2	Scan Time (min.)
Sudbury # 1	AUG 14	0926 1326	0.015	0.072	0.001	0.034	0.047	0.019	0.035	0.014	2.5
" # 2	14	1517 0747	0.005	0.060	0.001	0.025	0.038	0.016	0.015	0.006	2.5
" # 3	15	1503 1633	0.006	0.053	0.001	0.030	0.022	0.010	0.019	0.008	1.0
" # 4	15	1651 1736	0.006	0.082	0.001	0.081	0.031	0.014	0.029	0.011	1.0
" # 5	16	1330 1500	0.011	0.220	0.001	0.118	0.050	0.025	0.033	0.019	1.0
" # 6	16	1539 1709	0.004	0.027	0.001	0.014	0.010	0.008	0.008	0.007	1.0
" # 7	17	1243 1328	0.008	0.055	0.001	0.033	0.024	0.011	0.022	0.010	1.0
" # 8	19	1252 1432	0.008	0.059	0.001	0.039	0.017	0.008	0.014	0.006	1.0
" # 9	19	1510 1555	0.008	0.137	0.001	0.056	0.037	0.014	0.032	0.013	1.0
" #10	19	1644 1727	0.008	0.019	0.001	0.010	0.010	0.003	0.010	0.003	1.0
" #11	19	1750 1835	0.008	0.056	0.001	0.047	0.017	0.008	0.016	0.007	1.0
" #12	19	1900 0815	0.010	0.105	0.005	0.043	0.072	0.029	0.031	0.020	2.5
" #13	20	1119 1219	0.011	0.318	0.001	0.316	0.070	0.042	0.064	0.033	1.0
" #14	20	1235 1420	0.009	0.201	0.001	0.085	0.056	0.014	0.037	0.010	1.5
" #15	20	1449 1649	0.015	0.130	0.001	0.059	0.078	0.032	0.050	0.022	1.0
" #16	20	1713 1958	0.010	0.062	0.003	0.036	0.040	0.024	0.029	0.017	1.5

TABLE # 3 Contaminant Levels in Sudbury Units - PPM

LOCATION	Date 1979	Monitored Period		Instantaneous Concentration NO_X Min.	Instantaneous Concentration NO_X Max.	Instantaneous Concentration NO_2 Min.	Instantaneous Concentration NO_2 Max.	Maximum 1/2 Hour Average Concentration NO_X	Maximum 1/2 Hour Average Concentration NO_2	Sample Period Mean Concentration NO_X	Sample Period Mean Concentration NO_2	Scan Time (min.)
Sudbury #17	AUG 21	1449	1559	0.010	0.256	0.001	0.163	0.055	0.042	0.048	0.032	1.0
" #18	22	1444	1549	0.009	0.032	0.001	0.020	0.018	0.007	0.016	0.005	1.0
" #19	22	1606	1706	0.008	0.012	0.001	0.004	0.010	0.001	0.010	0.001	1.0
" #20	22	1728	1813	0.009	0.016	0.001	0.009	0.012	0.003	0.011	0.003	1.0
" #21	25	1229	1349	0.005	0.091	0.001	0.082	0.017	0.008	0.016	0.007	1.0
" #22	25	1415	1700	0.012	0.154	0.001	0.091	0.078	0.034	0.056	0.021	

DAILY WEATHER CONDITIONS

Date	Conditions
August 14	cold front passing, cool and cloudy
August 15	cool, cloudy → moderate, sunny (11:00)
August 16	sunny, calm → variable winds (0-20 km/hr)
August 17	sunny, calm → overcast, rain (13:30)
August 18	overcast, rain, fog (no monitoring)
August 19	sunny, calm
August 20	sunny → cloudy, some rain (14:00)
August 21	low cloud, calm → sunny, light winds
August 22	calm, sunny → light winds
August 23	low cloud, fog, light rain (no monitoring)
August 24	low cloud, drizzle (no monitoring)
August 25	cloudy, strong breeze

MONITORING SITES

M.P. #	Location
1	Sheraton Hotel (04995-51444); 5.0 km & 125 DGS/INCO
2	Sheraton Hotel (04995-51444); 5.0 km & 125 DGS/INCO
3	Bypass & Southview Dr. (04960-51427); 4.5 km & 180 DGS/INCO
4	Bypass (04965-51427); 4.5 km & 170 DGS/INCO
5	Paris St. Hospital (05007-51470); 5.0 km & 090 DGS/INCO
6	Hwy #69 & Railway Tracks (05011-51505); 6.5 km & 060 DGS/INCO
7	Val Caron (04993-51616); 15.0 km & 015 DGS/INCO
8	Hwy #69 & Paris St. (04997-51443); 5.2 km & 125 DGS/INCO
9	Hwy #69 & Hwy #537 (05132-51345); 21.5 km & 125 DGS/INCO
10	Bypass & Hwy #543 (04993-51417); 6.5 km & 145 DGS/INCO
11	Long Lake School (05005-51390); 9.5 km & 150 DGS/INCO
12	Sheraton Hotel (04995-51444); 5.0 km & 125 DGS/INCO
13	Bypass (05010-51423); 7.2 km & 135 DGS/INCO
14	Bypass & Hwy #543 (04993-51420); 6.3 km & 145 DGS/INCO
15	Paris St. & Ramsey Lake Rd. (05002-51420); 4.5 km & 105 DGS/INCO
16	Sheraton Hotel (04995-51444); 5.0 km & 125 DGS/INCO
17	Hwy #536 (04901-51387); 10.0 km & 215 DGS/INCO
18	Hwy #634 (04882-51597); 14.5 km & 330 DGS/INCO
19	Hwy #634 (04900-51598); 14.0 km & 335 DGS/INCO
20	Boninville (04940- 51599); 13.0 km & 350 DGS/INCO
21	Second Ave at Asea (05049-51497); 9.6 km & 075 DGS/INCO
22	Barrydowne Rd & Hwy #17 (05041-51503); 9.0 km & 075 DGS/INCO

07. DISCUSSION

Weather conditions in the Sudbury area during the survey period were quite varied with 5 of the 12 days being mainly sunny, 5 other days ending with rain, and 2 days being cloudy for the entire day. The wind direction was also variable since the monitoring locations covered approximately 3/4 of the compass points with respect to the Inco stack, excluding only the sector between 215° and 330° from the stack.

The atmospheric condition of most interest during the survey was one in which the solar radiation heated the earth sufficiently to cause vertical thermal eddies in the lower tropospheric layers. The resulting turbulence then effectively brought the Inco plume down to ground level in certain areas, where it was hoped that the monitoring vehicles would be located. These conditions were expected to develop on sunny days between 1100 hours and 1500 hours. It was noted that the 5 monitoring periods (M.P.) when the 30 -minute Standard for SO_2 was exceeded occurred on 4 of the days when sunny conditions prevailed.

A Control Order was issued to Inco on July 27, 1978 by the Ministry of the Environment and included a stipulation that the ground level concentration of SO_2 due to emissions from the entire Inco operation, including the 381 m stack, must not exceed 0.50 ppm averaged over a 1-hour period. The largest 1-hour average concentration detected during the survey was 0.40 ppm SO_2 (M.P. #18). However, for 12 of the 18 M.P.'s when monitoring was carried out downwind of the Inco stack an instantaneous concentration of SO_2 greater than 0.5 ppm was detected at ground level. The wandering nature of the plume is verified by the facts that the 30 -minute Standard was exceeded for only 5 of those 12 M.P.'s and only 1 of the 18 downwind M.P.'s was longer than 2 hours. In most cases the duration of the plume impingement was only a small fraction of the monitoring period.

The wind/pollution roses (arrows) for the periods of high average SO_2 concentrations generally support what was observed visually: the Inco operations were the primary source of the high SO_2 concentrations. The influence of emissions from the Falconbridge Nickel Mines smelter 15 km NE of Sudbury was considered negligible due to favorable wind directions, except for one of the monitoring periods (#17) when the MAM unit was downwind of both Inco and Falconbridge. A correlation spectrometer (COSPEC) was used during the study to locate the center and boundaries of the plume from the 381 m stack. At relatively small distances (5 km) from the 381 m stack it was sometimes possible with the COSPEC to distinguish separate plumes for the 381 m stack and the Iron Ore

Recovery Plant. Although source testing has shown that the Iron Ore Recovery Plant and the smelter low-level emissions contribute only about 5% of the total Inco SO_2 emissions, that contribution to the ground level concentrations can not be treated as negligible during the monitoring periods of this survey. The 18 monitoring locations were downwind of the 381 m stack but were often unavoidably downwind of the low level emissions as well. Instead of attempting to determine the separate SO_2 contributions by using the results of the present survey, a more suitable procedure would be to conduct a survey dedicated, at least in part, to that problem.

Four M.P.'s were located at the Sheraton Hotel on Highway #69 near Paris St. These periods (#1, 2, 12, 16) were intended to be background monitoring while the overall study was suspended due to poor atmospheric conditions. M.P. #2 was, in fact, downwind of the Inco stack for most of the 16 hour duration, but only small wisps of the plume dropped down to ground level. M.P.'s 1 and 16 were also roughly downwind of the Inco stack, which eliminated those periods from consideration as background monitoring as well. The results of M.P. #12 are also questionable as an indication of background SO_2 concentration since, although there was no plume impingement at the monitoring location (about 70° off the downwind direction), low level emissions from the Iron Ore Recovery Plant and the smelter may have been present.

The generally low concentrations of NO_2 and NO_x (NO_2 + NO), even during periods of high SO_2 concentration, indicate that the Inco plume was not a significant source of nitrogen oxides.

The concentration of H_2S was generally low except for the large instantaneous value (0.05 ppm) during M.P. #21. The large H_2S concentration cannot be explained since correlation analysis revealed no significant correlation between H_2S and the other contaminants, including the SO_2 which is known to exist in the Inco plume. It should be noted that the location of M.P. #21 was downwind of the city of Sudbury as well as the Inco stack. There is also a possibility that the large H_2S concentration was due to emissions from the E.B. Eddy Forest Products Limited mill in Espanola, 90 km west of Sudbury.

08. CONCLUSION

Ambient air ground level concentrations of SO_2 exceeded the Ontario 30-minute Standard of 0.30 ppm during 5 of the 18 monitoring periods downwind of the Inco stack. The influence of the low level Inco SO_2 emissions was not determined. Each of the 5 periods occurred on mainly sunny days.

The maximum 1-hour average concentration of SO_2 allowed by the terms of a Control Order issued to Inco by the Ontario Ministry of the Environment (0.50

ppm) was not exceeded during the survey period.

Concentrations of H_2S, NO, NO_2 and O_3 were low throughout the survey period. There was no significant correlation between concentrations of SO_2 and any of the above contaminants.

09. APPENDIX

A. Wind/Pollution Roses

B. Concentration/Time Plots

C. Monitoring Period Statistics (30 - minute average)

A. Wind/Pollution Roses

Wind vectors originate at the Inco Stack and display the percentage (%) of time that the winds moved in the vector directions.

Pollution (SO_2) vectors originate at the monitoring site and represent the directions from which SO_2-laden winds came and the average (arithmetic mean) SO_2 concentrations for those wind directions.

SUDBURY #3

15:03 AUG 15 1979 SCAN= 60 SEC AVE= 5 MIN
LENGTH= 1.5 HRS MINIMUM MEAN= 0.05 PPM
DELAY= 0 MIN WIND RANGE= 3 / 30 KM/HR
LOC: BYPASS & SOUTHVIEW DR(04960-51427); 4.5 KM & 180 DGS/INCO

ARITHMETIC MEAN: SO2
1 DIV= 0.1 PPM
PREVAILING WINDS; BLOWING TOWARDS:
1 DIV= 10 %

SUDBURY #5

13:30 AUG 16 1979
LENGTH= 1.5 HRS
DELAY= 0 MIN
LOC: PARIS ST HOSPITAL(05007-51470); 5.0 KM @ 090DGS/INCO

SCAN= 60 SEC AVE= 5 MIN
MINIMUM MEAN= 0.05 PPM
WIND RANGE= 3 / 30 KM/HR

ARITHMETIC MEAN: SO2
1 DIV= 0.1 PPM
PREVAILING WINDS; BLOWING TOWARDS:
1 DIV= 10 %

SUDBURY #6

15:39 AUG 16 1979 SCAN= 60 SEC AVE= 5 MIN
LENGTH= 1.5 HRS MINIMUM MEAN= 0.05 PPM
DELAY= 0 MIN WIND RANGE= 3 , 30 KM/HR
LOC: HWY 69 & RR TRACKS(X5011-51505); 6.5KM&060DGS/INCO

ARITHMETIC MEAN: SO2
1 DIV= 0.1 PPM
PREVAILING WINDS; BLOWING TOWARDS:
1 DIV= 10 %

SUDBURY #17

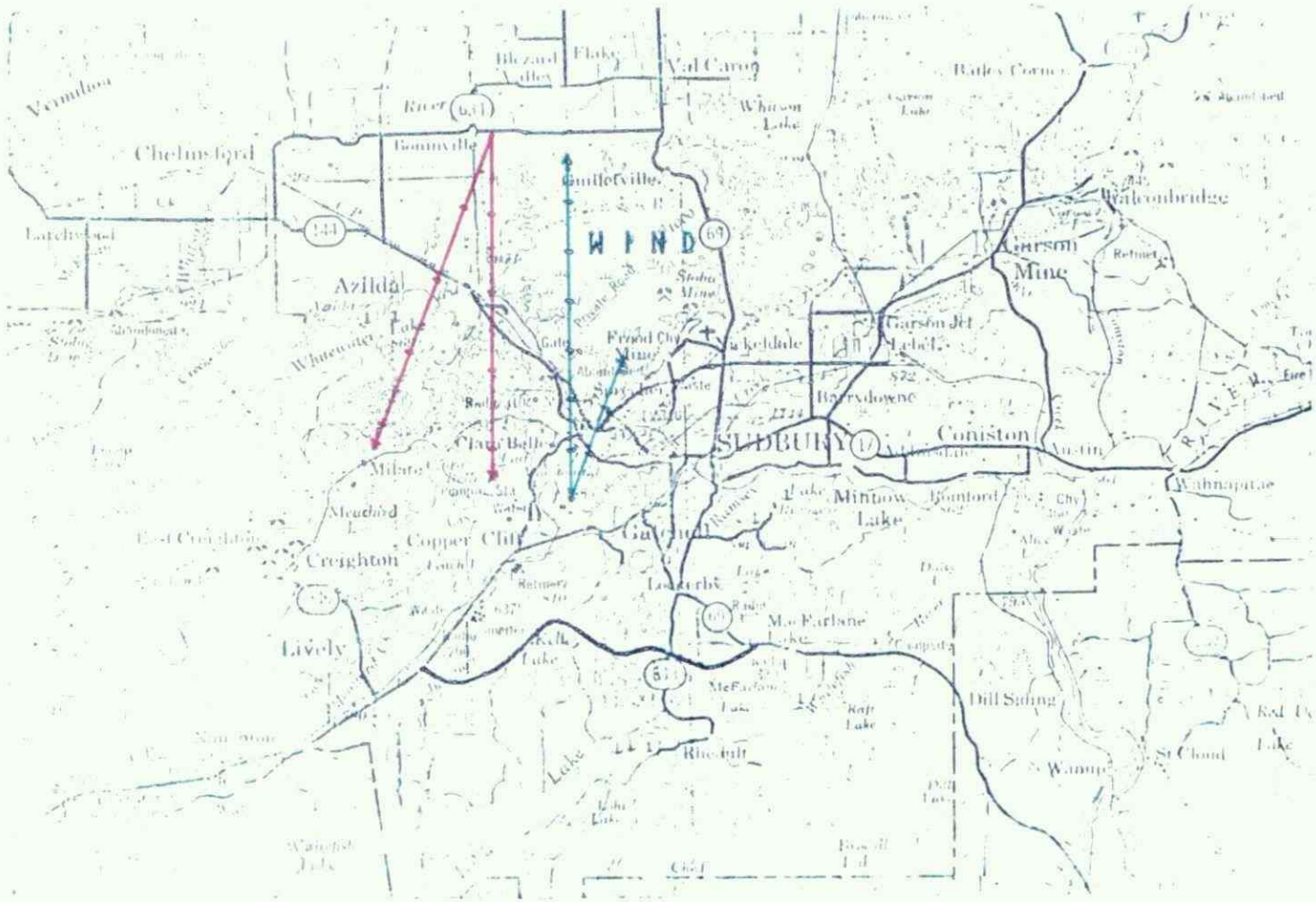
14:49 AUG 21 1979 SCAN= 60 SEC AVE= 5 MIN
LENGTH= 1.2 HRS MINIMUM MEAN= 0.05 PPM
DELAY= 0 MIN WIND RANGE= 3 / 30 KM/HR
LOC: HWY #536(04901-51387); 10.0 KM & 215DGS/INCO

ARITHMETIC MEAN: SO2
1 DIV= 0.1 PPM
PREVAILING WINDS; BLOWING TOWARDS:
1 DIV= 100 %

SUDBURY #18

14:44 AUG 22 1979 SCAN= 60 SEC AVE= 5 MIN
LENGTH= 1.1 HRS MINIMUM MEAN= 0.05 PPM
DELAY= 0 MIN WIND RANGE= 3 / 30 KM/HR
LOC: HWY #6340(04882-51597); 14.5 KM @ 330DGS/NNCO

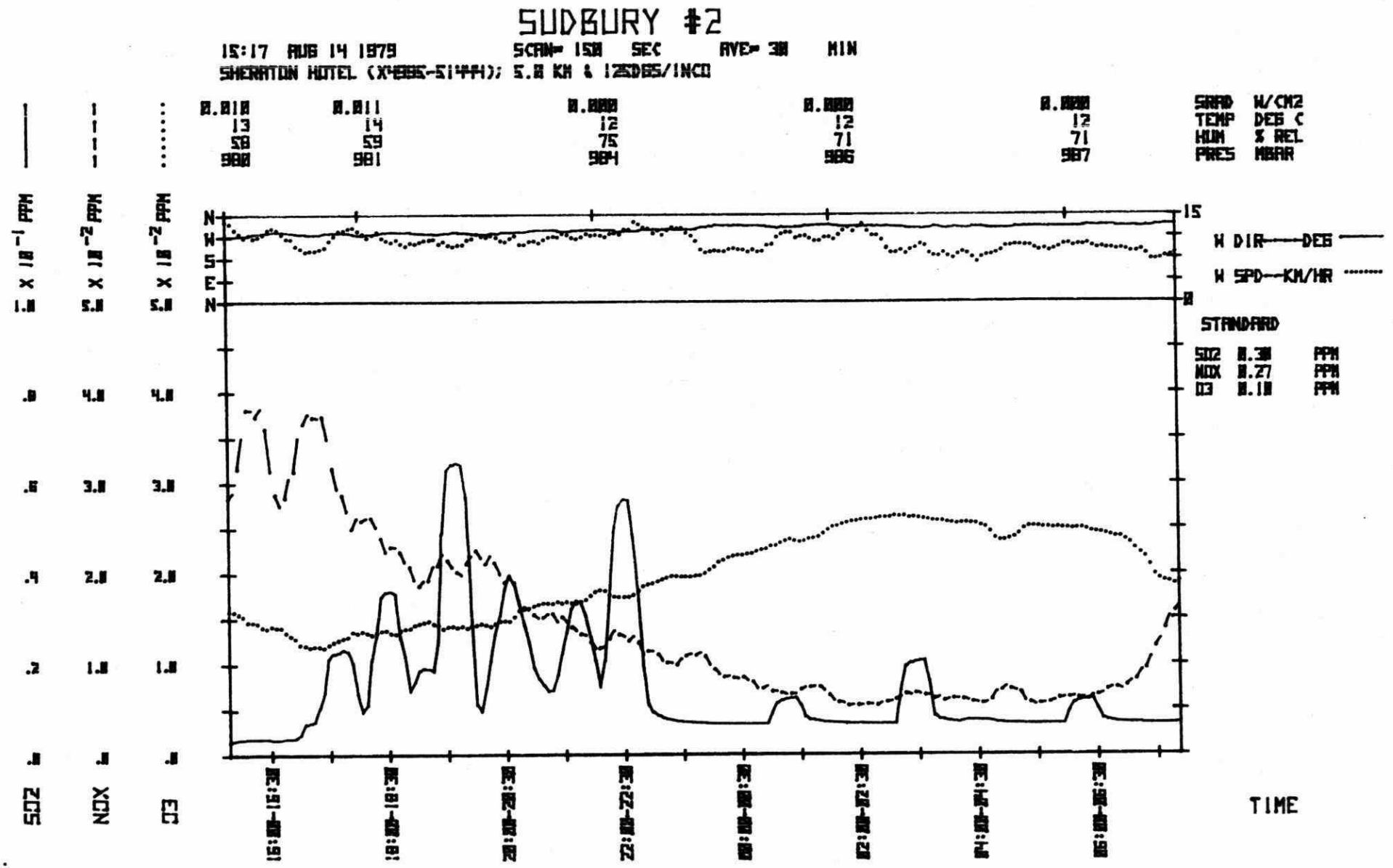
ARITHMETIC MEAN: SO2
1 DIV= 0.1 PPM
PREVAILING WINDS; BLOWING TOWARDS:
1 DIV= 10 %

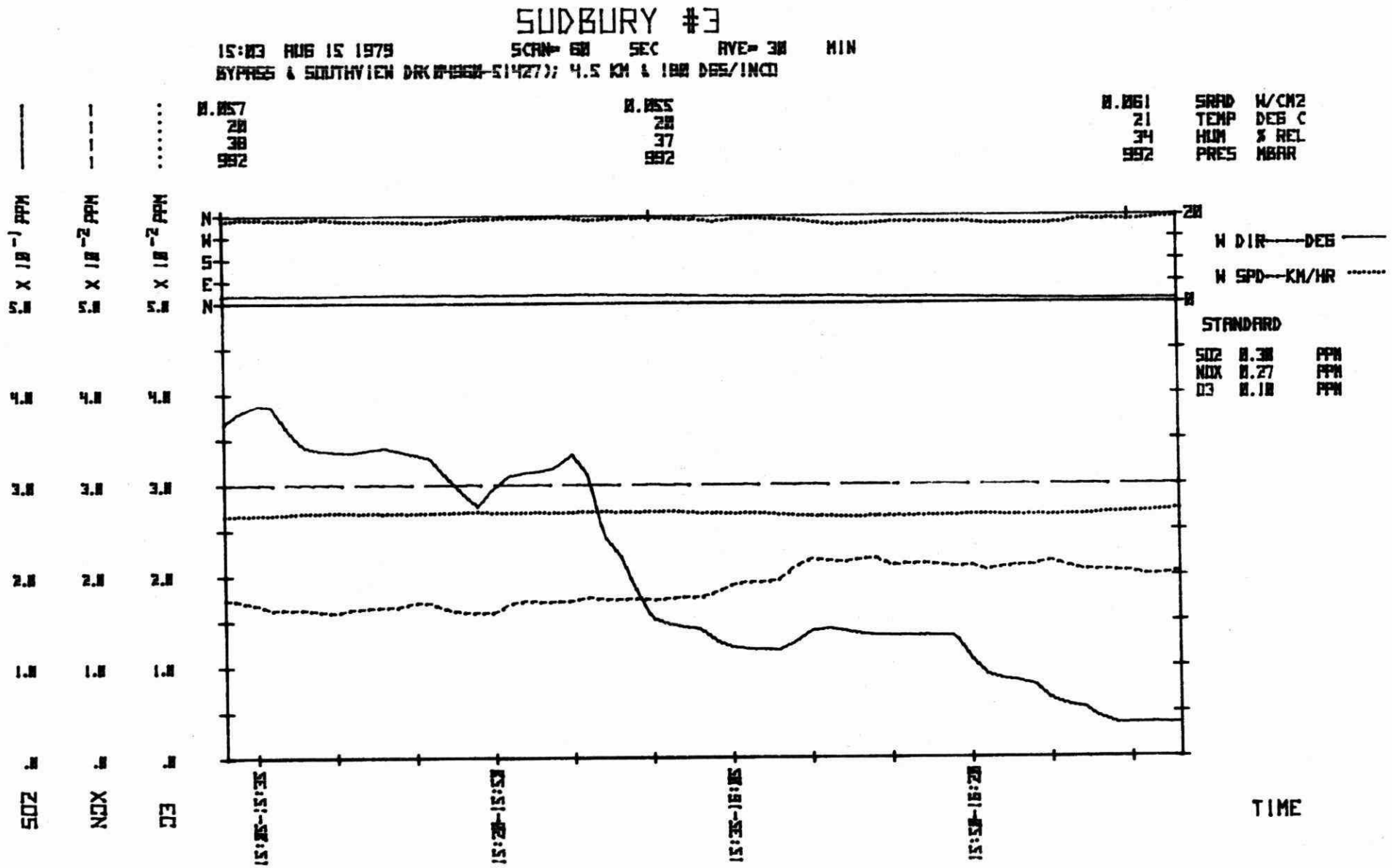


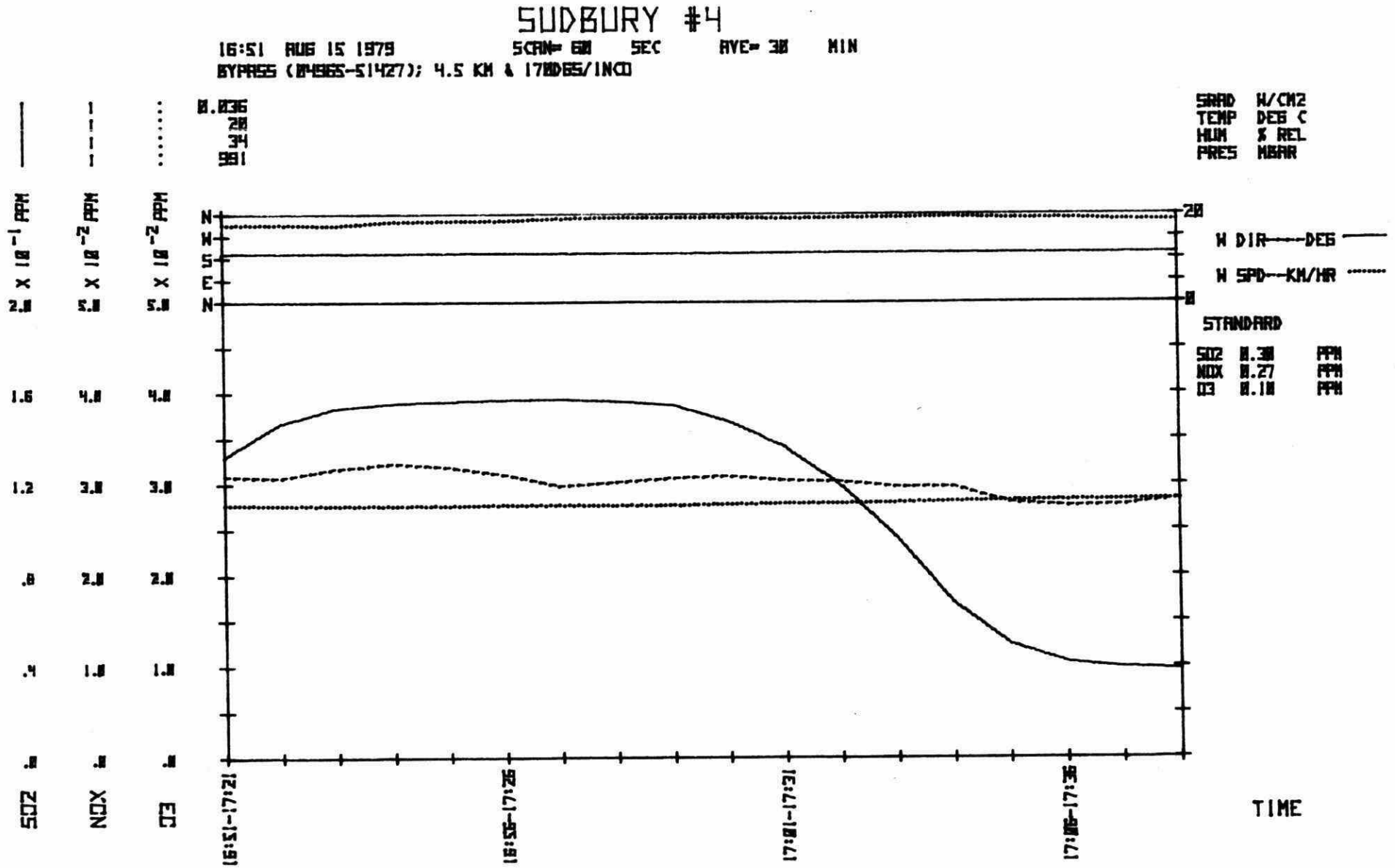
B. Concentration/Time Plots

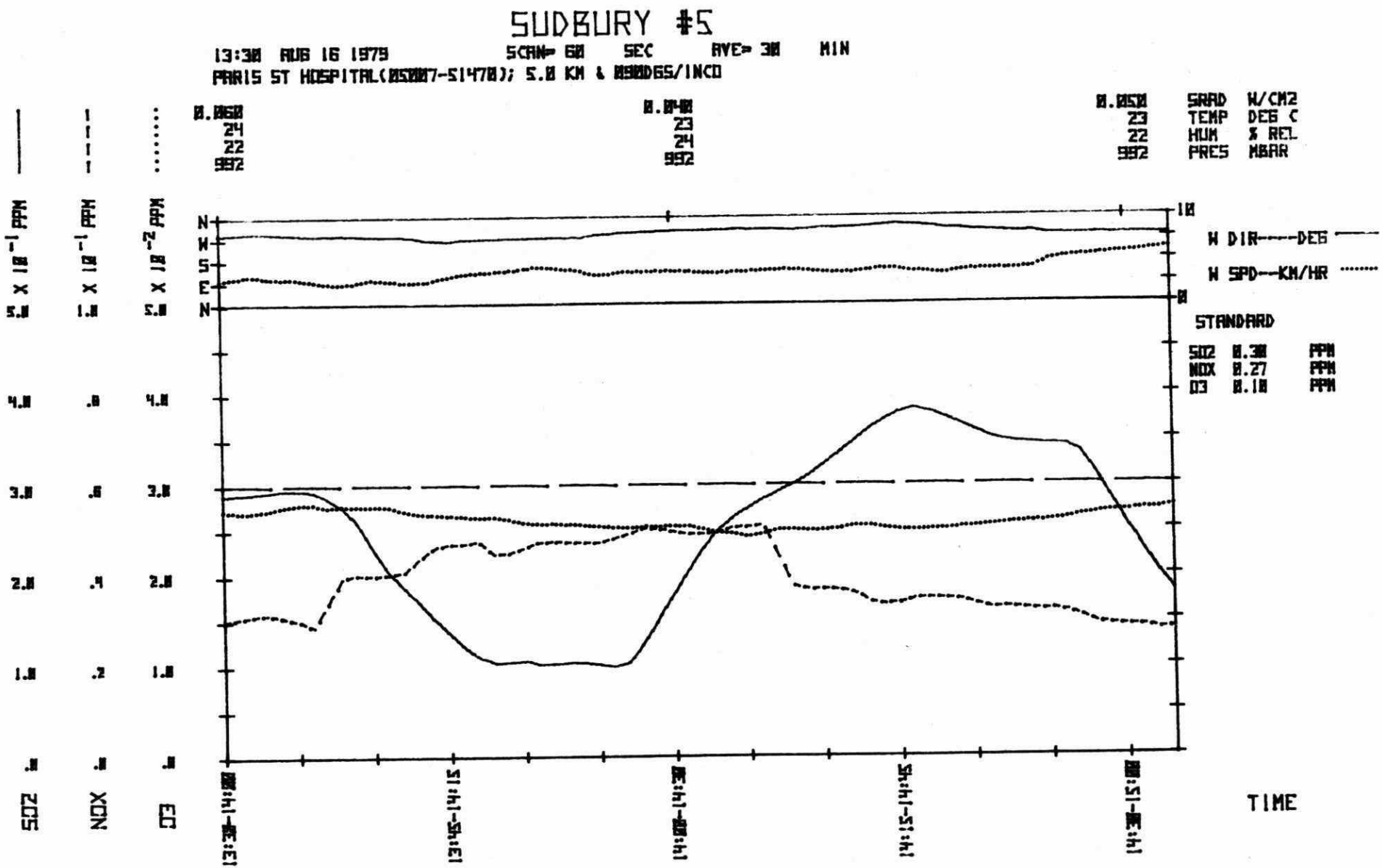
Each of the plots is a smooth trace through a certain number of points which represent 30-minute average concentrations of SO_2 corresponding to the intervals shown on the "time" axis. The number of points plotted depends on the monitoring period duration and the scan time as follows:

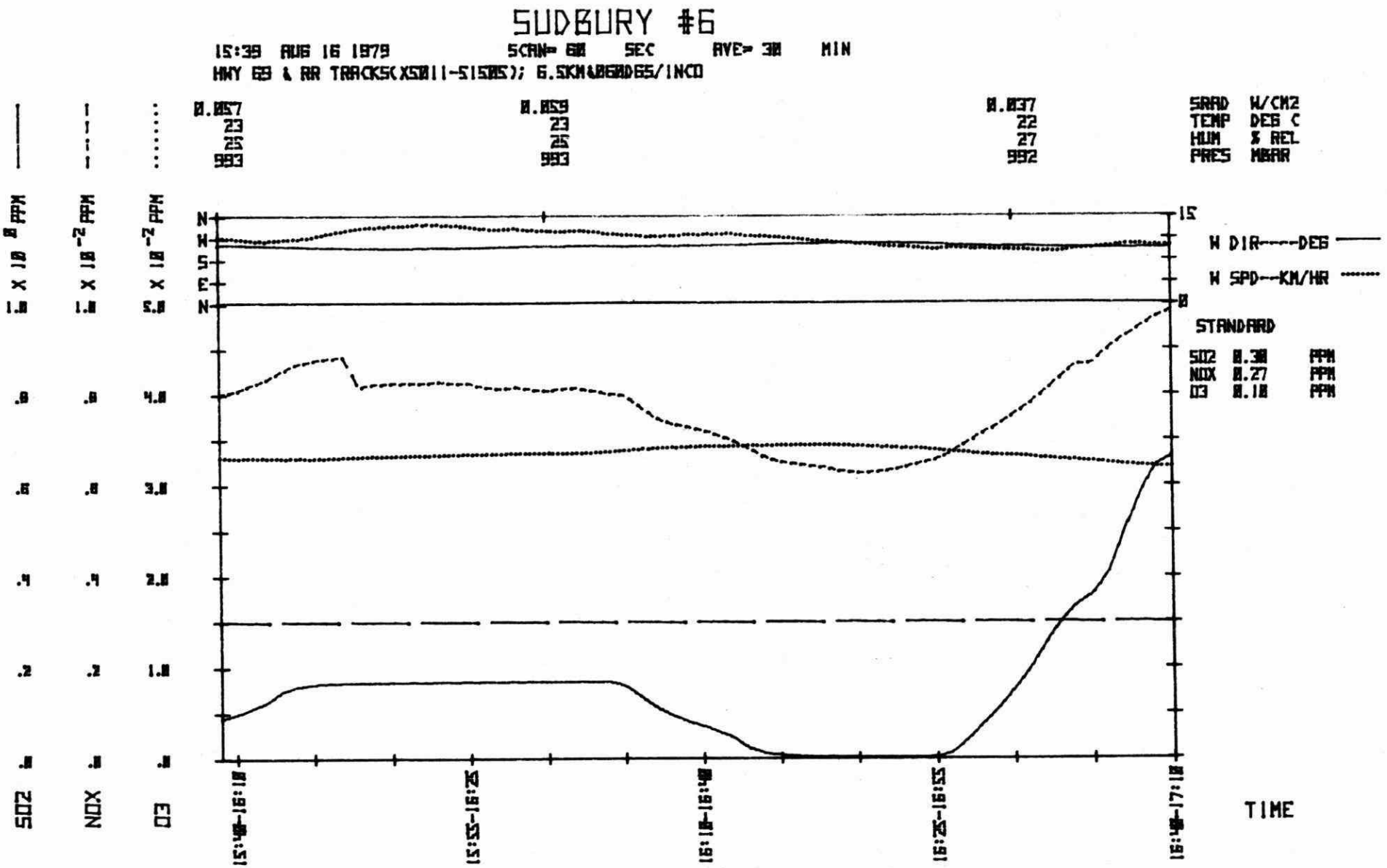
$$\text{number of points} = \frac{\text{duration(minutes)} - 30}{\text{scan time (minutes)}}$$

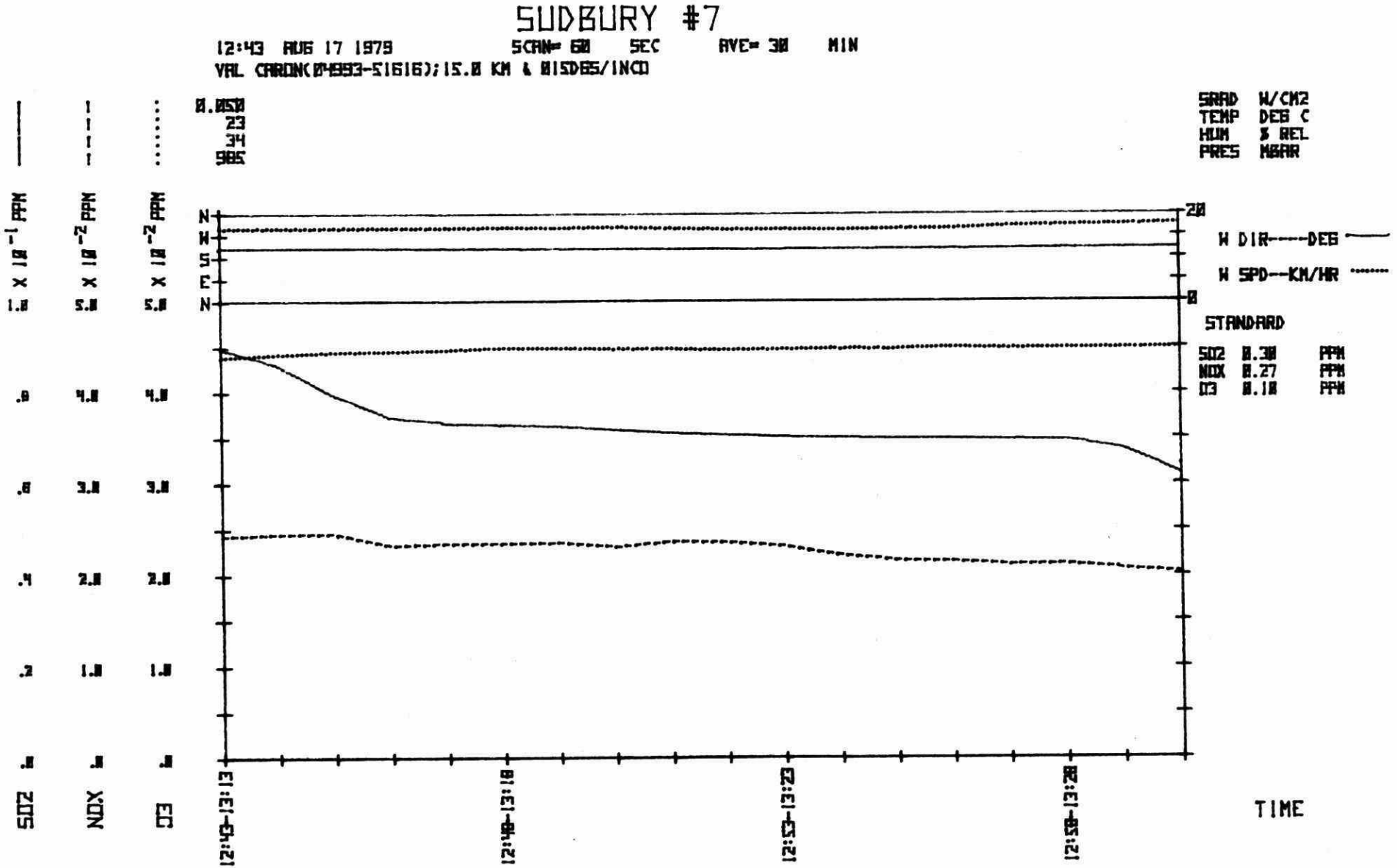

SUDBURY #2
15:17 AUG 14 1979 SCAN= 15M SEC AVE= 3M MIN
SHERATON HOTEL (X=885-S1=44); 5.8 KM & 125DEG/INCR
0.010 0.011 0.000 0.000 0.000 SRAD W/CM2
13 14 12 12 12 TEMP DEG C
58 59 75 71 71 HUM % REL
980 981 984 986 987 PRES MBAR
SO2 NOX O3
STANDARD
SO2 0.30 PPM
NOX 0.27 PPM
O3 0.10 PPM
W DIR DEG
W SPD KM/HR
TIME

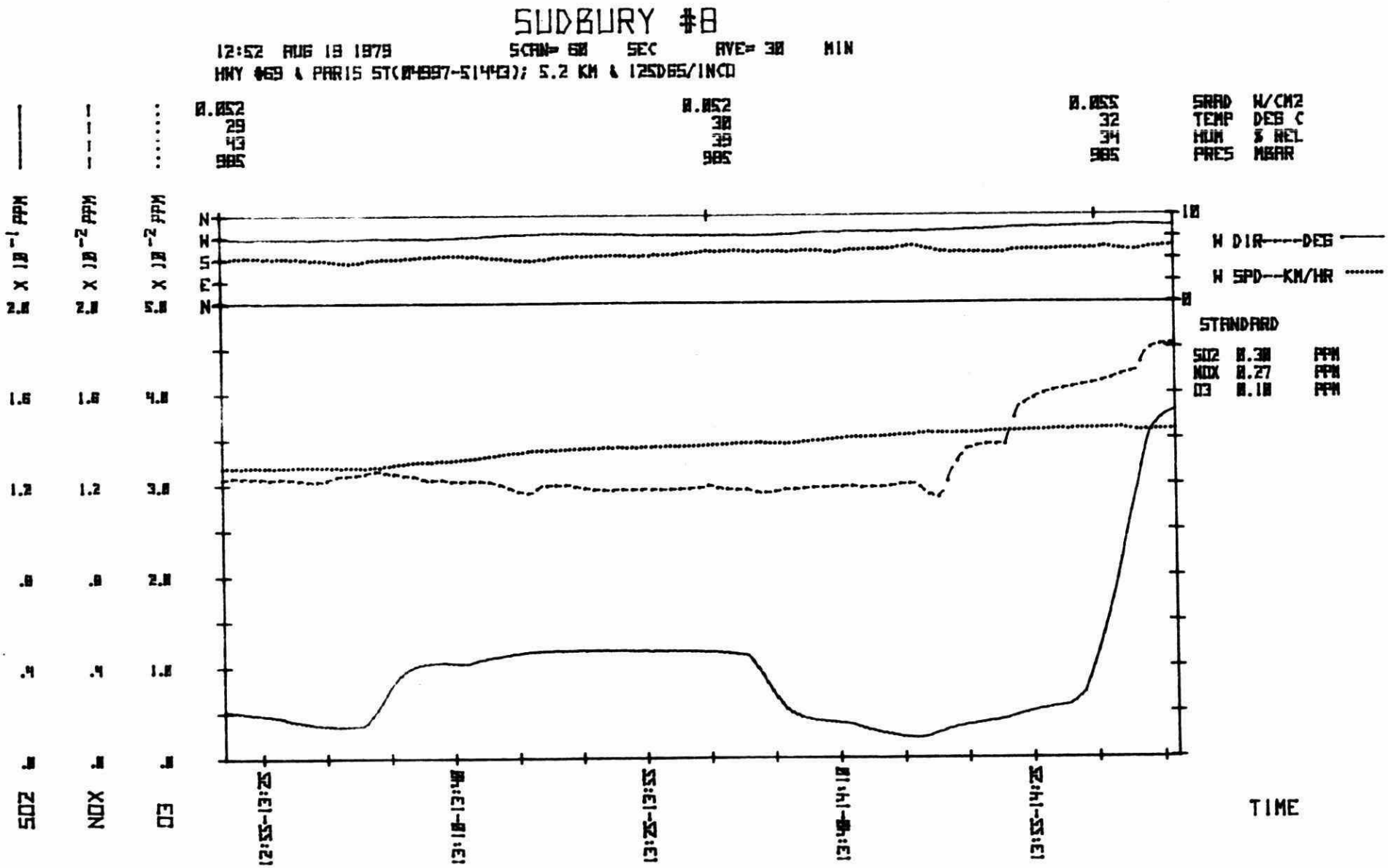

SUDBURY #3
15:03 AUG 15 1979 SCAN= 60 SEC AVE= 30 MIN
BYPASS & SOUTHVIEW DR(N=1564-S1427); 4.5 KM & 180 DEG/INCR
0.057
28
38
992
0.055
28
37
992
0.061 SRAD W/CM2
21 TEMP DEG C
34 HUM % REL
992 PRES MBAR
W DIR——DEG
W SPD---KM/HR
STANDARD
SO2 0.30 PPM
NOX 0.27 PPM
O3 0.10 PPM
5.0 X 10⁻¹ PPM
5.0 X 10⁻² PPM
5.0 X 10⁻² PPM
SO2
NOX
O3
TIME


SUDBURY #4
16:51 AUG 15 1979
SCAN= 60 SEC
AVE= 30 MIN
BYPASS (M4965-S1427); 4.5 KM & 178D65/INCO
SRAD W/CM2
TEMP DEG C
HUM % REL
PRES MBAR
W DIR----DEG
W SPD---KM/HR
STANDARD
SO2 0.30 PPM
NOX 0.27 PPM
O3 0.10 PPM
SO2
NOX
O3
TIME


SUDBURY #5
13:30 AUG 16 1979 SCAN= 60 SEC AVE= 30 MIN
PARIS ST HOSPITAL(05007-51470); 5.0 KM & 050065/INCO
0.0060
24
22
992
0.0040
23
24
992
0.0050 SRAD W/CM2
23 TEMP DEG C
22 HUM % REL
992 PRES MBAR
5.0 X 10⁻¹ PPM
1.0 X 10⁻¹ PPM
5.0 X 10⁻² PPM
N
W
S
E
N
10
0
W DIR----DEG
W SPD--KM/HR
STANDARD
SO2 0.30 PPM
NOX 0.27 PPM
O3 0.10 PPM
5.0
4.0
3.0
2.0
1.0
.8
.6
.4
.2
SO2
NOX
O3
13:30-14:00
13:45-14:15
14:00-14:30
14:15-14:45
14:30-15:00
TIME


SUDBURY #6
15:38 AUG 16 1979 SCAN= 60 SEC AVE= 30 MIN
HWY 69 & RR TRACKS(X5011-51505); 6.5KM&060D65/INCD
0.057 0.059 0.037
23 23 22
26 26 27
993 993 992
SRAD W/CM2
TEMP DEG C
HUM % REL
PRES MBAR
1.0 X 10 -0 PPM
1.0 X 10 -2 PPM
5.0 X 10 -2 PPM
SO2
NOX
O3
N
W
S
E
N
15
0
W DIR-----DEG
W SPD---KM/HR
STANDARD
SO2 0.30 PPM
NOX 0.27 PPM
O3 0.10 PPM
15:40-16:10
15:55-16:25
16:10-16:40
16:25-16:55
16:40-17:10
TIME

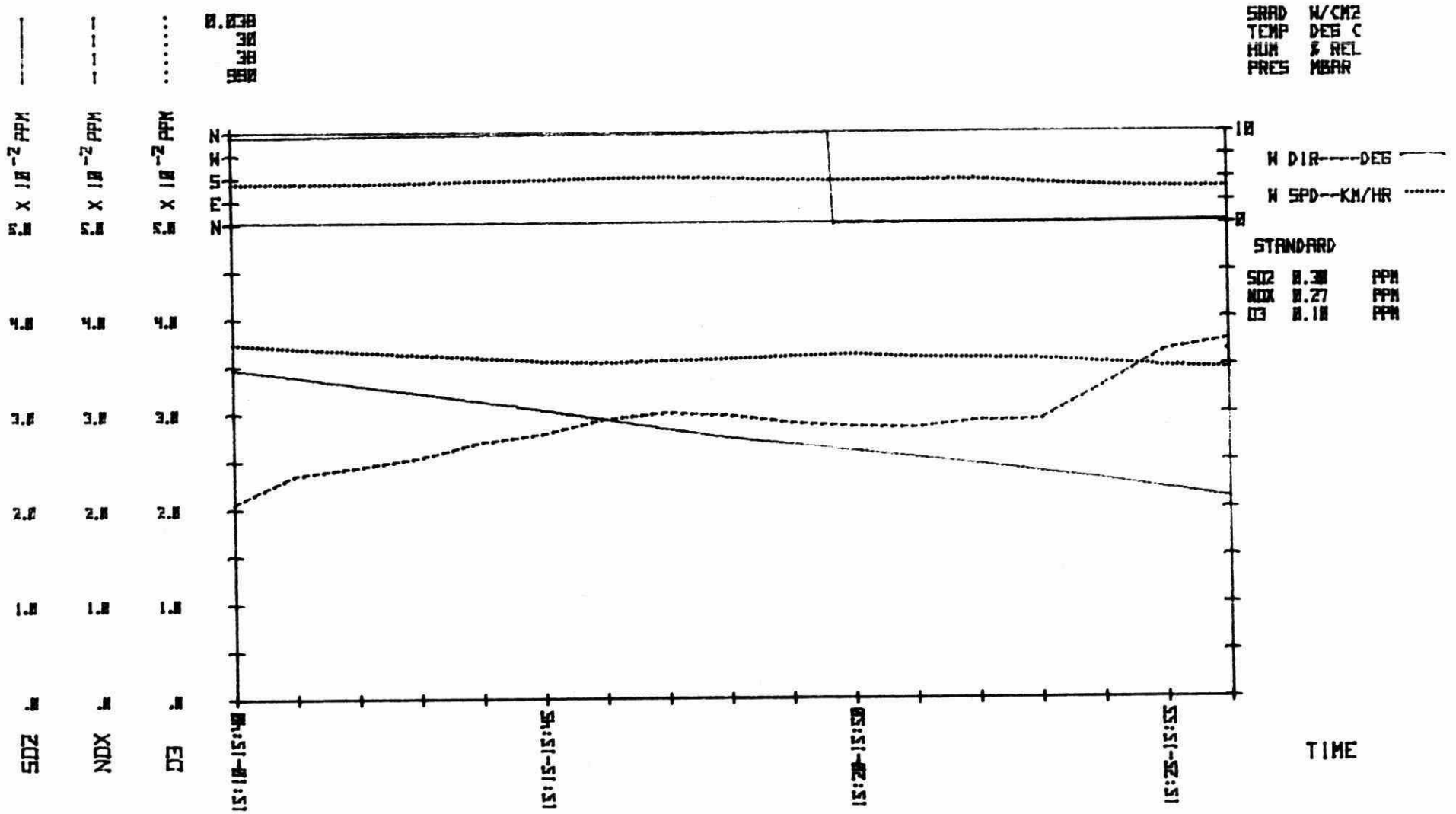

SUDBURY #7
12:43 AUG 17 1979
SCAN= 60 SEC
AVE= 30 MIN
VAL CARON(0493-5161G);15.0 KM & 015DEG/INCR
SRAD W/CM2
TEMP DEG C
HUM % REL
PRES MBAR
W DIR----DEG
W SPD--KM/HR
STANDARD
SO2 0.30 PPM
NOX 0.27 PPM
O3 0.10 PPM
SO2
NOX
O3
TIME

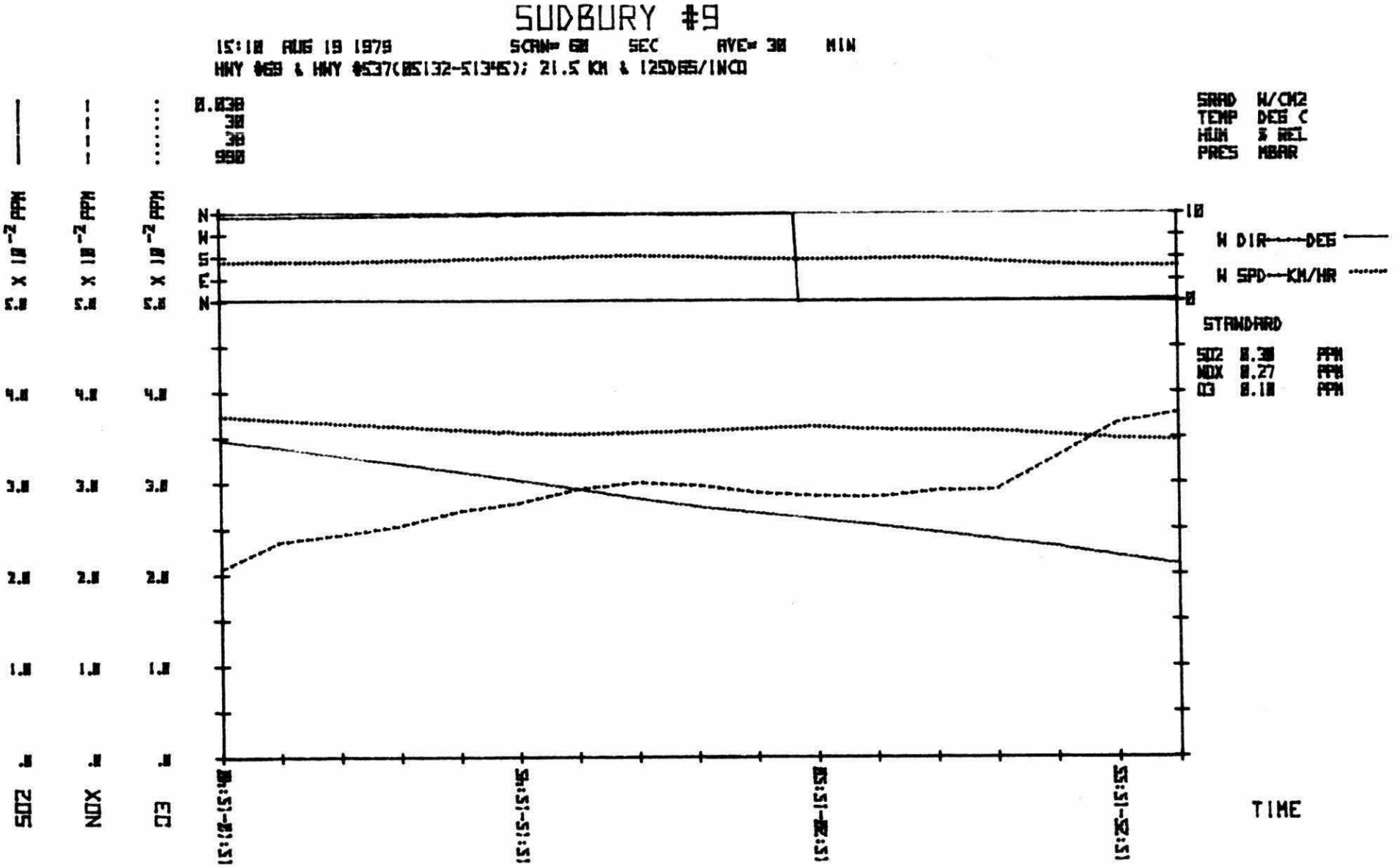

SUDBURY #8
12:52 AUG 18 1979
SCAN= 60 SEC AVE= 30 MIN
HWY #69 & PARIS ST(0+897-5+443); 5.2 KM & 125DEG/INCD
0.052
29
985
0.052
30
39
985
0.055
32
34
985
SRAD W/CM2
TEMP DEG C
HUM % REL
PRES MBAR
2.0 X 10-1 PPM
2.0 X 10-2 PPM
5.0 X 10-2 PPM
SO2
NOX
O3
N
NW
W
SW
S
SE
E
NE
N
10
0
W DIR----DEG
W SPD--KM/HR
STANDARD
SO2 0.30 PPM
NOX 0.27 PPM
O3 0.10 PPM
12:52-13:22
13:01-13:31
13:22-13:52
13:41-14:11
13:52-14:22
TIME

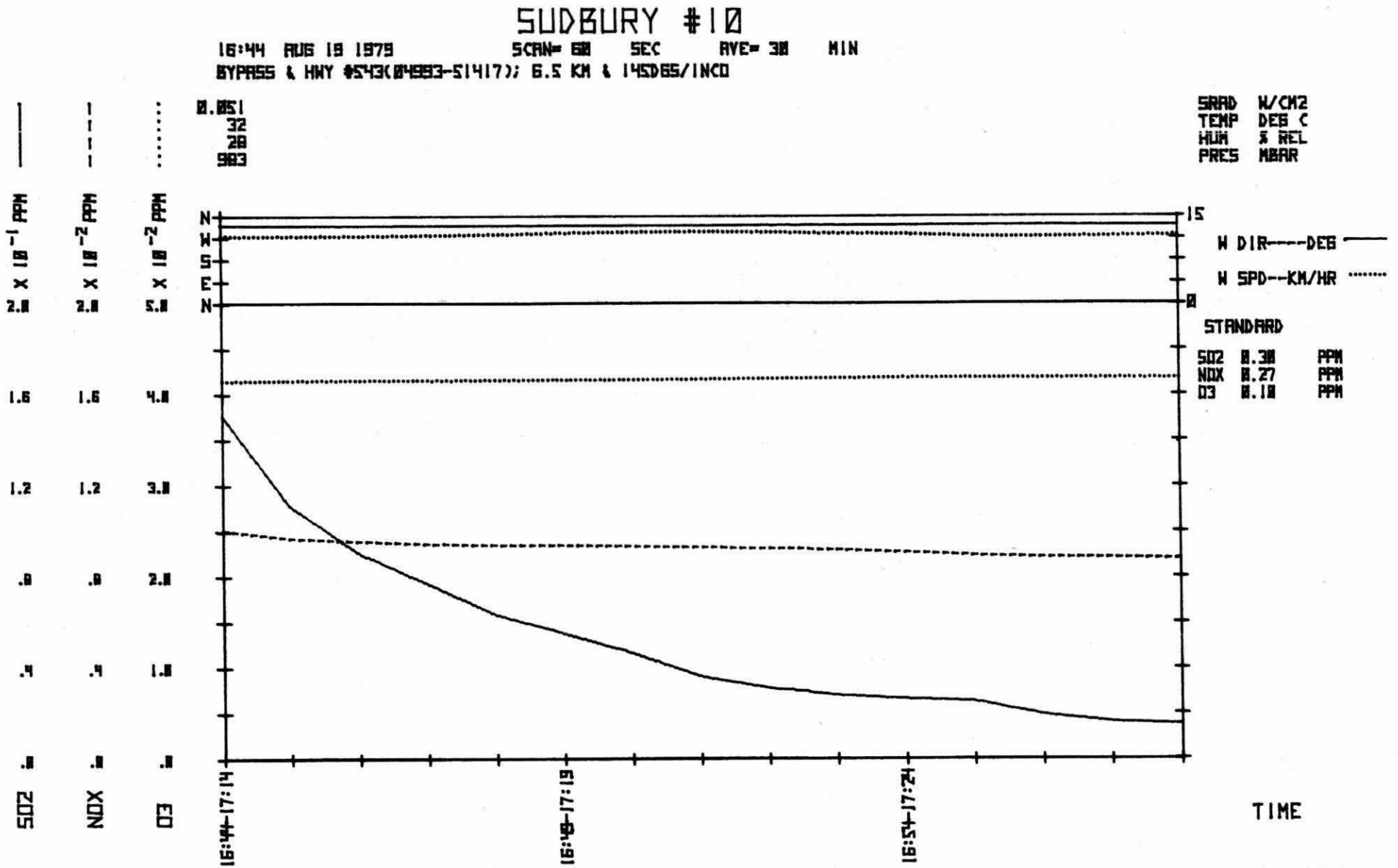
SUDBURY #9

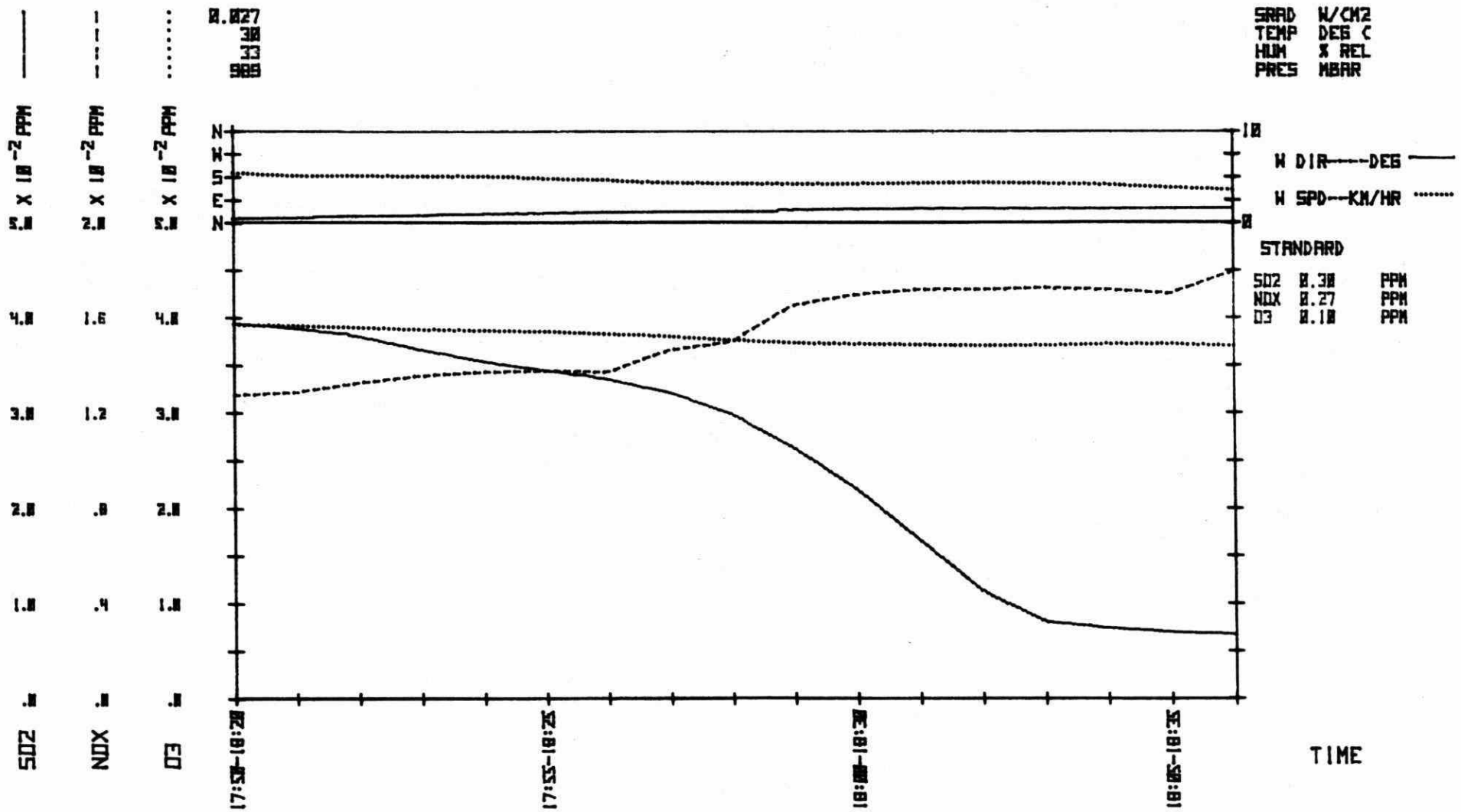
15:10 AUG 19 1979 SCAN= 60 SEC AVE= 30 MIN

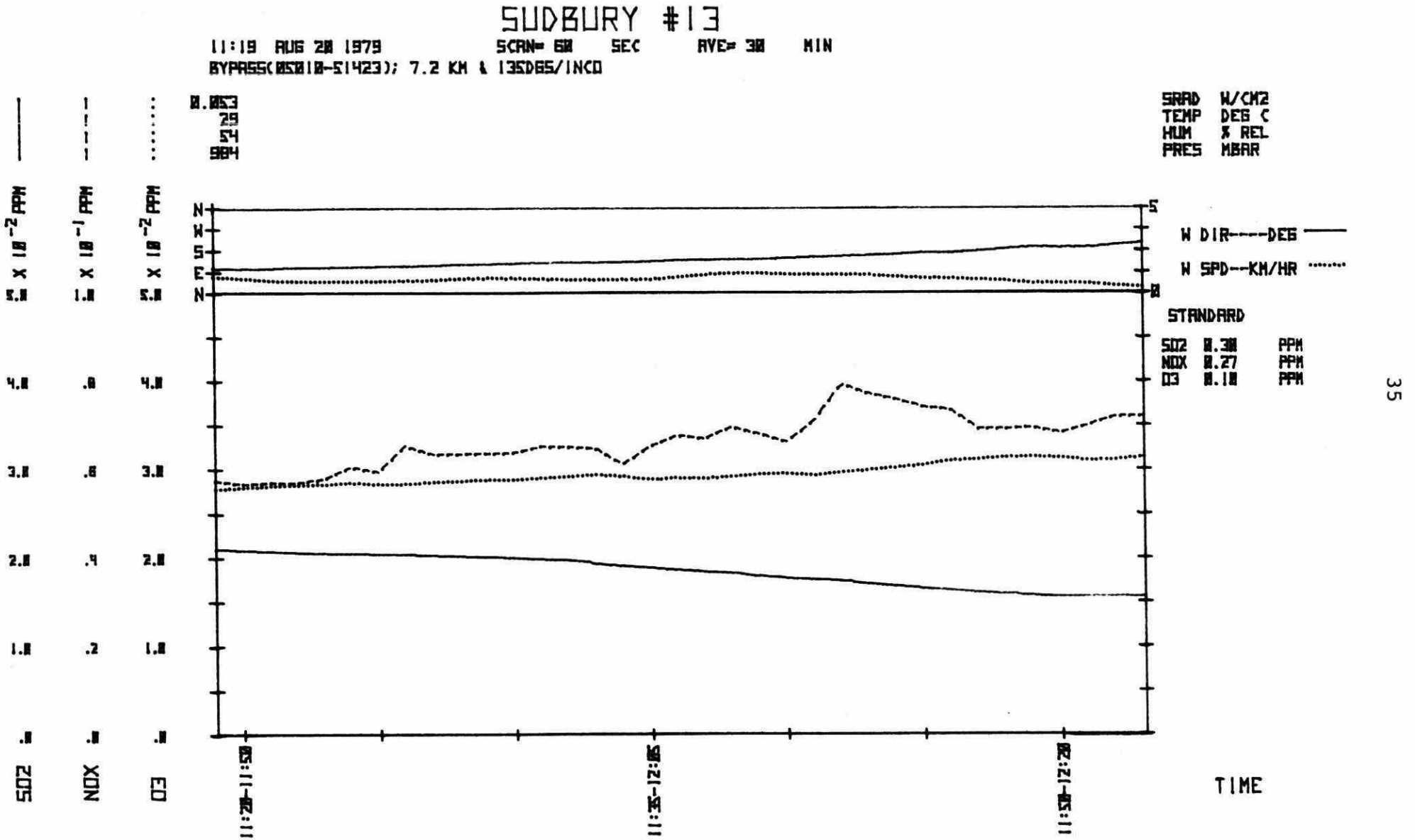
HWY 069 & HWY #537(05132-51345); 21.5 KM & 125DEG/INCD

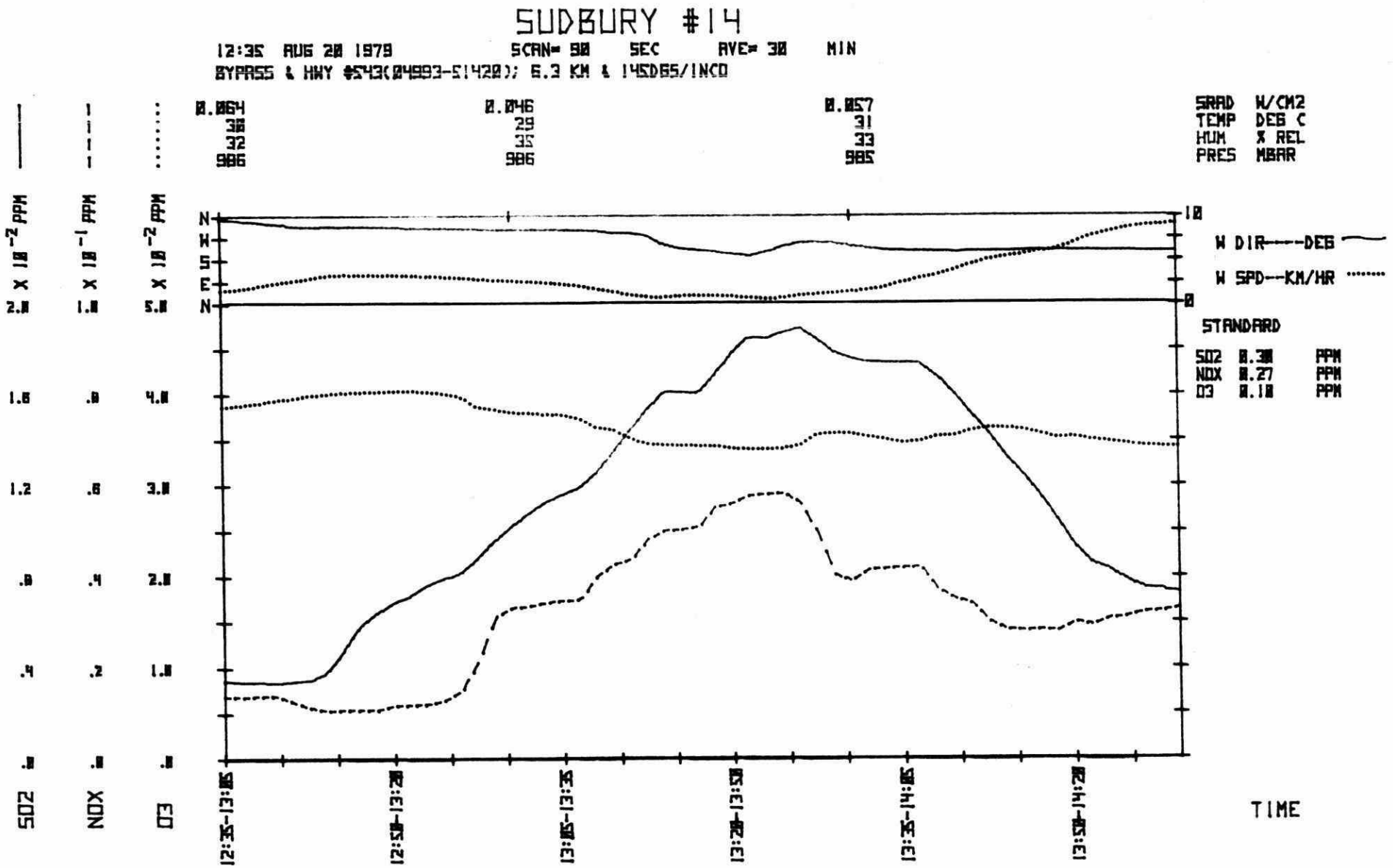


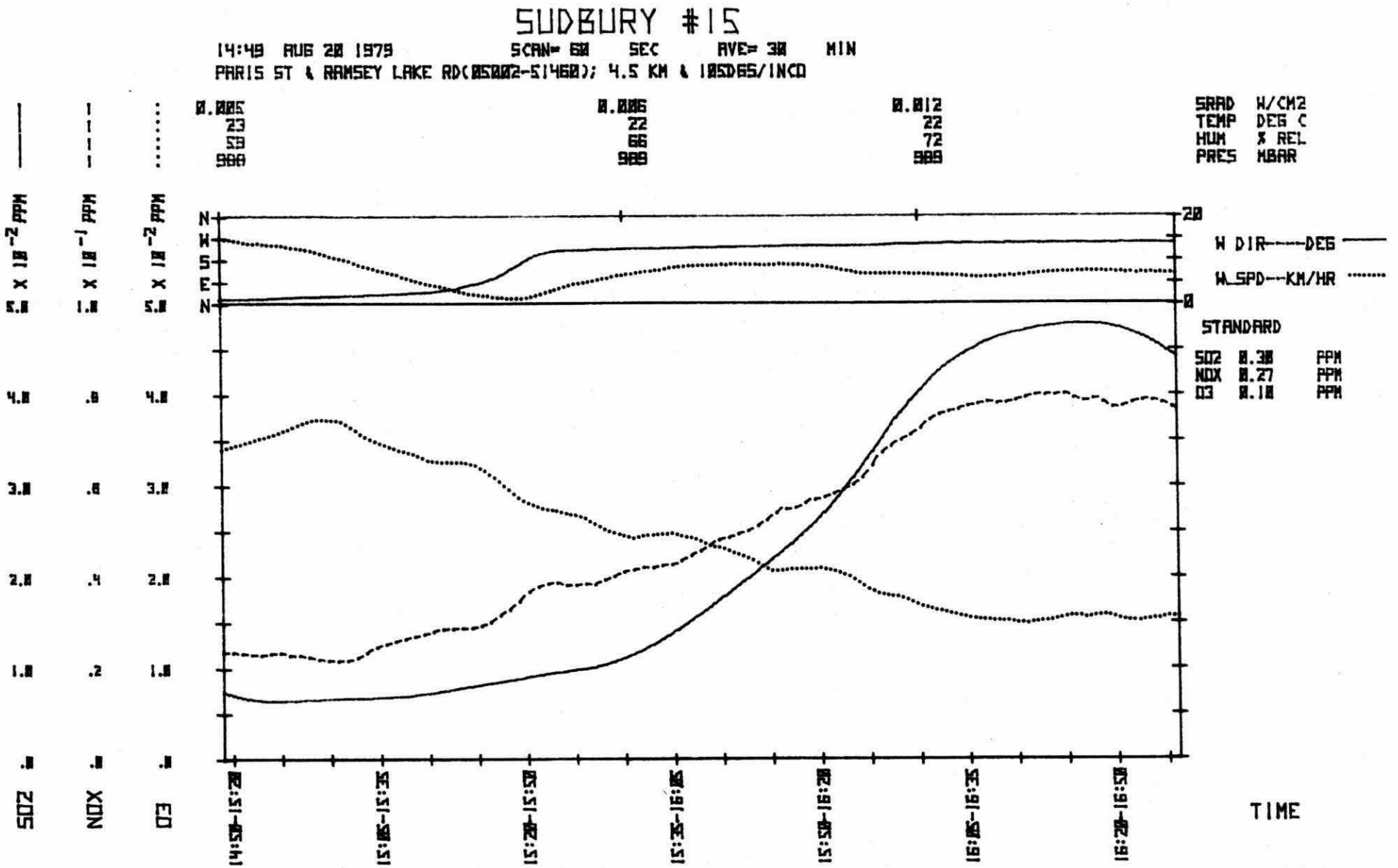

SUDBURY #9
15:18 AUG 19 1979
SCAN= 60 SEC
AVE= 30 MIN
HWY #69 & HWY #537(805132-513455); 21.5 KM & 1250665/INCO
SRAD W/CM2
TEMP DEG C
HUM % REL
PRES MBAR
W DIR----DEG
W SPD---KM/HR
STANDARD
SO2 0.30 PPM
NOX 0.27 PPM
O3 0.10 PPM
5 X 10-2 PPM
SO2
NOX
O3
TIME

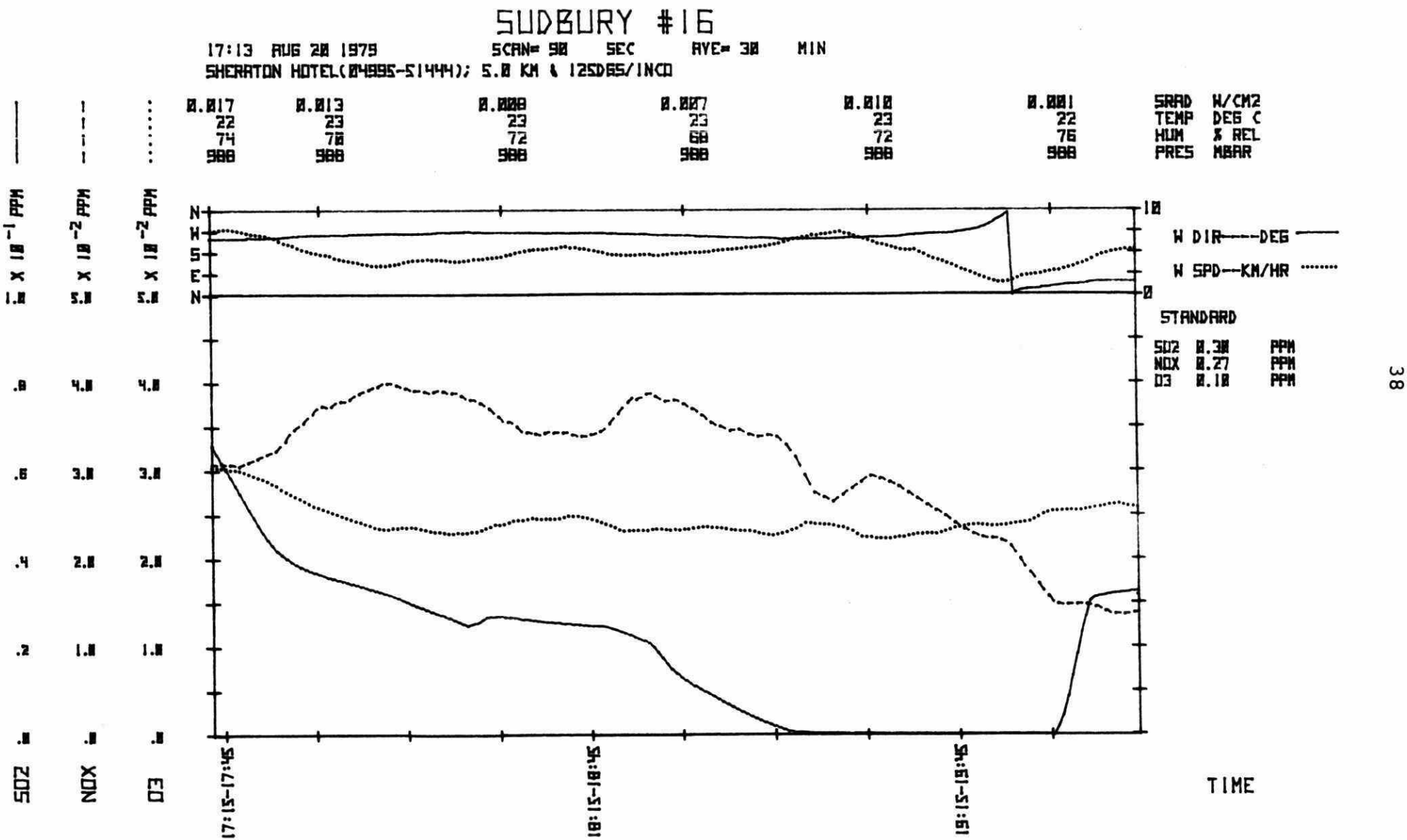

SUDBURY #10
16:44 AUG 18 1979
SCAN= 60 SEC
AVE= 30 MIN
BYPASS & HWY #543(04883-51417); 6.5 KM & 145DEG/INCO
0.051
32
28
983
SRAD W/CM2
TEMP DEG C
HUM % REL
PRES MBAR
X 10⁻¹ PPM
X 10⁻² PPM
X 10⁻² PPM
2.0
1.6
1.2
.8
.4
.0
SO2
NOX
O3
N
W
S
E
N
15
0
W DIR----DEG
W SPD--KM/HR
STANDARD
SO2 0.30 PPM
NOX 0.27 PPM
O3 0.10 PPM
16:44-17:14
16:49-17:19
16:54-17:24
TIME

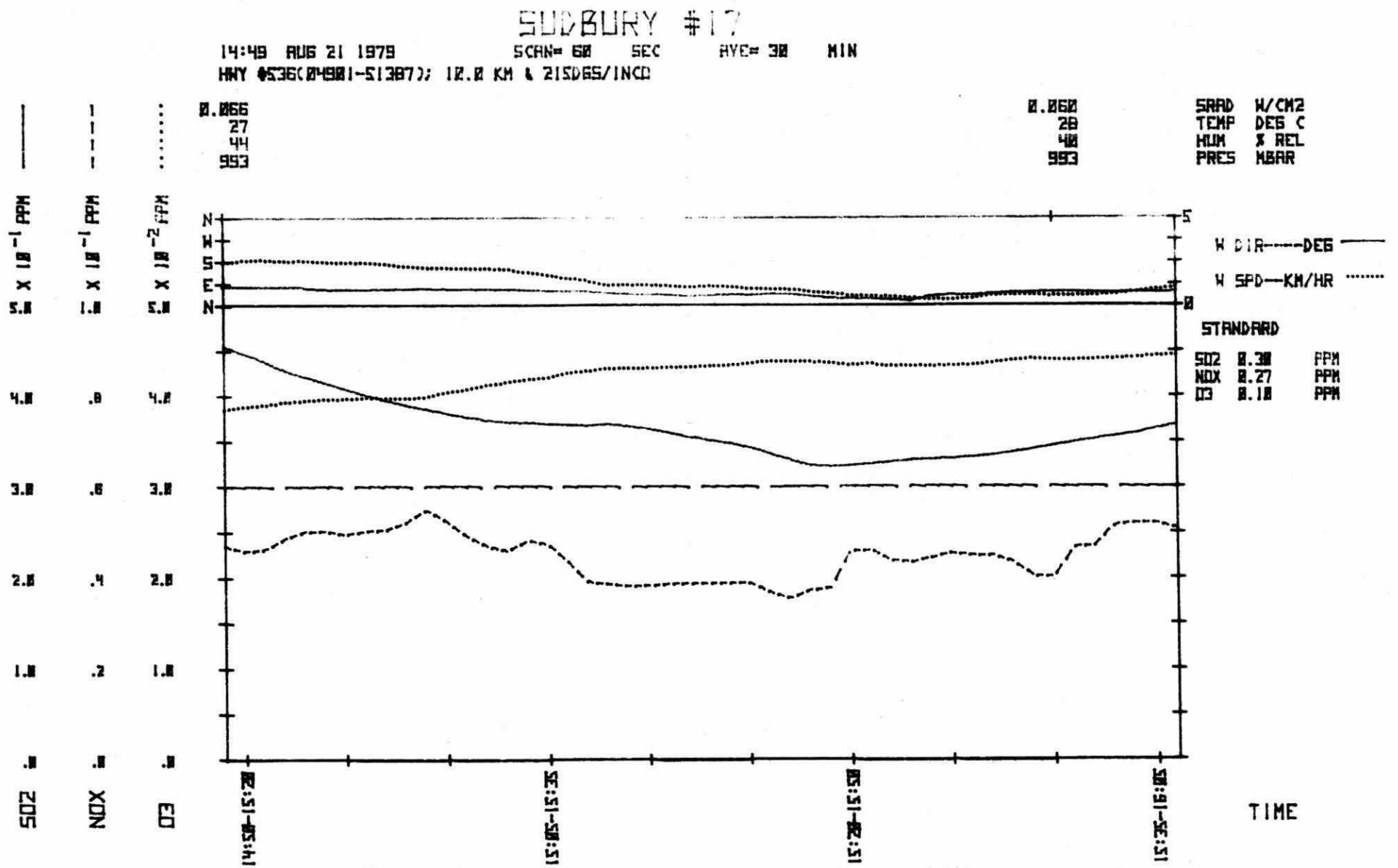

SUDBURY #11
17:50 AUG 19 1979 SCAN= 60 SEC AVE= 30 MIN
LONG LAKE SCHOOL(05005-51350); 9.5 KM & 150DEG/INCO
0.027
30
13
989
SRAD W/CM2
TEMP DEG C
HUM % REL
PRES MBAR
X 10^-2 PPM
5.0
4.0
3.0
2.0
1.0
.0
2.0
1.6
1.2
.8
.4
.0
SO2
NOX
O3
N
W
S
E
N
10
0
W DIR----DEG
W SPD--KM/HR
STANDARD
SO2 0.30 PPM
NOX 0.27 PPM
O3 0.10 PPM
17:50-18:20
17:55-18:25
18:00-18:30
18:05-18:35
TIME

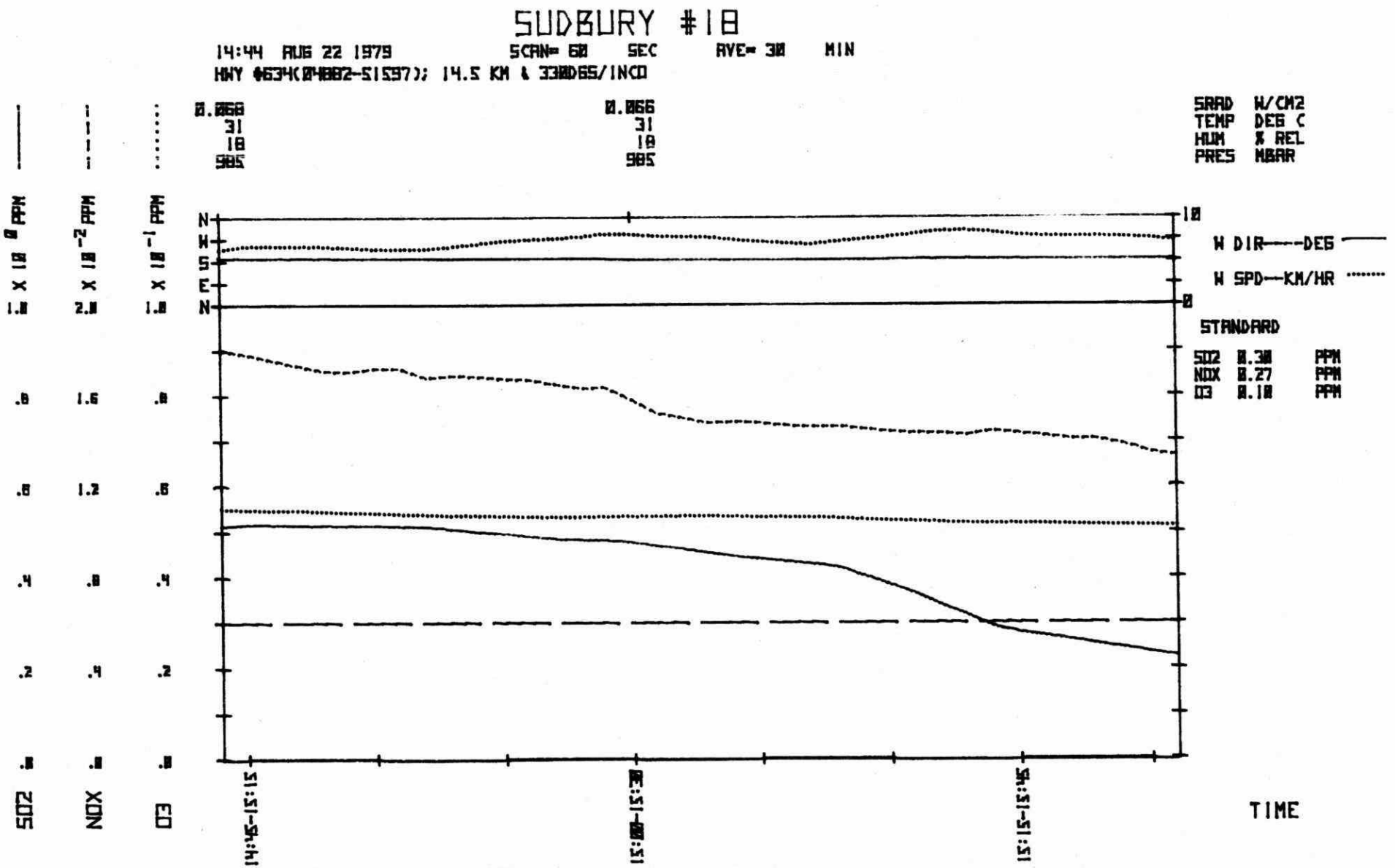

SUDBURY #13
11:19 AUG 28 1979
SCAN= 60 SEC
AVE= 30 MIN
BYPASS(050010-51423); 7.2 KM & 135DEG/INCO
0.053
29
54
984
SRAD W/CM2
TEMP DEG C
HUM % REL
PRES MBAR
W DIR----DEG
W SPD--KM/HR
STANDARD
SO2 0.30 PPM
NOX 0.27 PPM
O3 0.10 PPM
N
W
S
E
N
5
0
5 X 10-2 PPM
1 X 10-1 PPM
5 X 10-2 PPM
5.0
1.0
5.0
4.0
.8
4.0
3.0
.6
3.0
2.0
.4
2.0
1.0
.2
1.0
.0
.0
.0
SO2
NOX
O3
11:20-11:50
11:35-12:05
11:50-12:20
TIME


SUDBURY #14
12:35 AUG 20 1979 SCAN= 90 SEC AVE= 30 MIN
BYPASS & HWY #543(04993-51420); 6.3 KM & 145D65/INCO
0.064 0.046 0.057
36 29 31
32 35 33
986 986 985
SRAD W/CM2
TEMP DEG C
HUM % REL
PRES MBAR
2 X 10⁻² PPM
1 X 10⁻¹ PPM
5 X 10⁻² PPM
SO2
NOX
O3
N
E
S
W
W DIR----DEG
W SPD---KM/HR
STANDARD
SO2 0.30 PPM
NOX 0.27 PPM
O3 0.10 PPM
12:35-13:05
12:50-13:20
13:05-13:35
13:20-13:50
13:35-14:05
13:50-14:20
TIME


SUDBURY #15
14:49 AUG 20 1979 SCAN= 60 SEC AVE= 30 MIN
PARIS ST & RAMSEY LAKE RD(05002-51460); 4.5 KM & 105DEG/INCD
0.005 0.006 0.012
23 22 22
59 66 72
988 989 989
SRAD W/CM2
TEMP DEG C
HUM % REL
PRES MBAR
W DIR----DEG
W_SPD---KM/HR
STANDARD
SO2 0.30 PPM
NOX 0.27 PPM
O3 0.10 PPM
SO2
NOX
O3
TIME


SUDBURY #16
17:13 AUG 20 1979 SCAN= 90 SEC AVE= 30 MIN
SHERATON HOTEL(04995-51444); 5.0 KM & 125DEG/INCR
0.017 0.013 0.008 0.007 0.010 0.001 SRAD W/CM2
22 23 23 23 23 22 TEMP DEG C
74 76 72 68 72 76 HUM % REL
988 988 988 988 988 988 PRES MBAR
1.0 X 10-1 PPM
5.0 X 10-2 PPM
5.0 X 10-2 PPM
N
W
S
E
N
10
0
W DIR----DEG
W SPD--KM/HR
STANDARD
SO2 0.30 PPM
NOX 0.27 PPM
O3 0.10 PPM
1.0
.8
.6
.4
.2
.0
4.0
3.0
2.0
1.0
SO2
NOX
O3
17:15-17:45
18:15-18:45
19:15-19:45
TIME

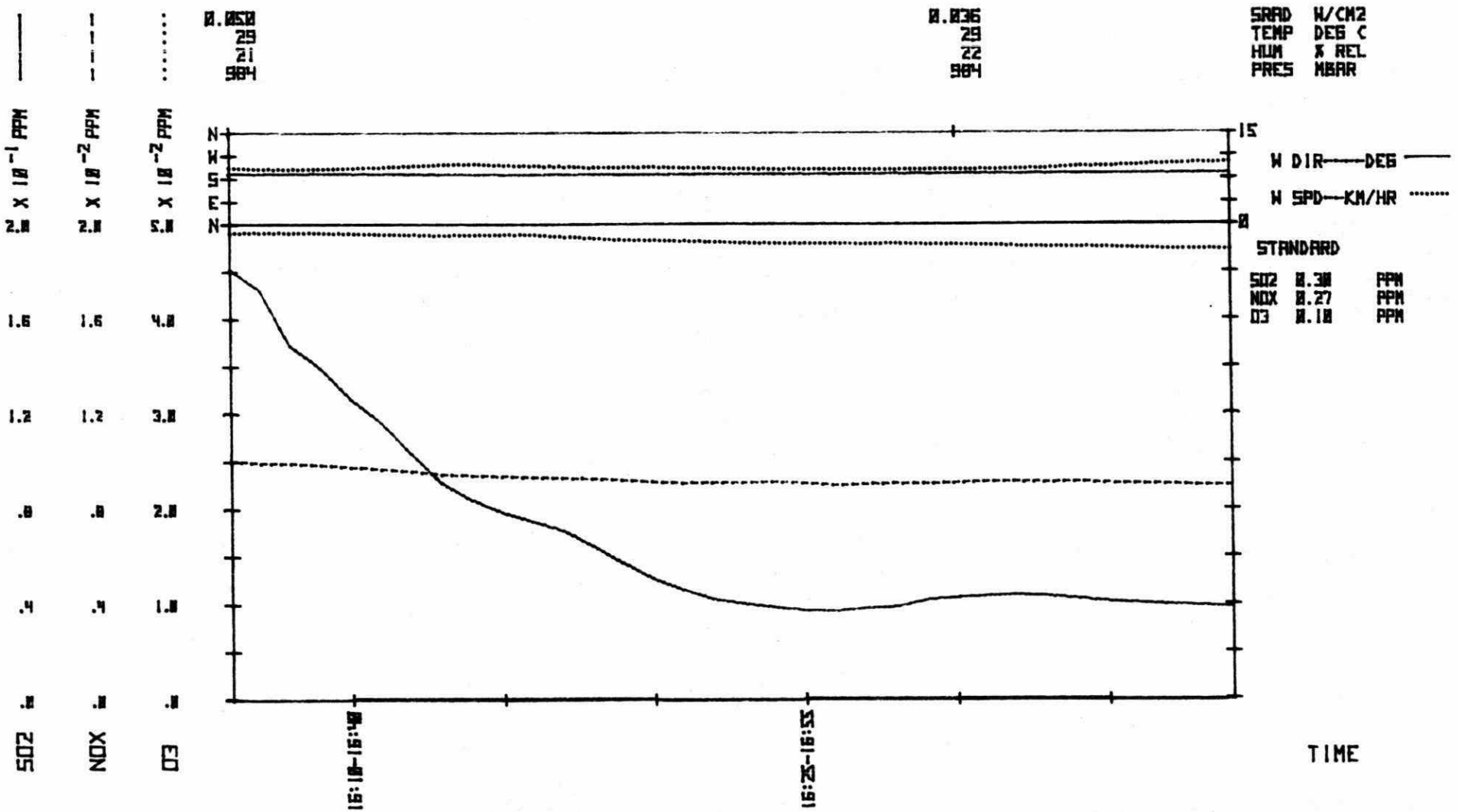

SUDBURY #17
14:49 AUG 21 1979
SCAN= 60 SEC
AVE= 30 MIN
HWY #536(04981-51387); 12.0 KM & 215DEG/INCD
0.066
27
44
993
0.060
28
40
993
SRAD W/CM2
TEMP DEG C
HUM % REL
PRES MBAR
5 X 10⁻¹ PPM
5 X 10⁻¹ PPM
5 X 10⁻² PPM
N
W
S
E
N
W DIR-----DEG
W SPD--KM/HR
STANDARD
SO2 0.30 PPM
NOX 0.27 PPM
O3 0.10 PPM
5.0
4.0
3.0
2.0
1.0
.0
1.0
.8
.6
.4
.2
.0
5.0
4.0
3.0
2.0
1.0
.0
360
0
SO2
NOX
O3
14:50-15:20
15:05-15:35
15:20-15:50
15:35-16:05
TIME

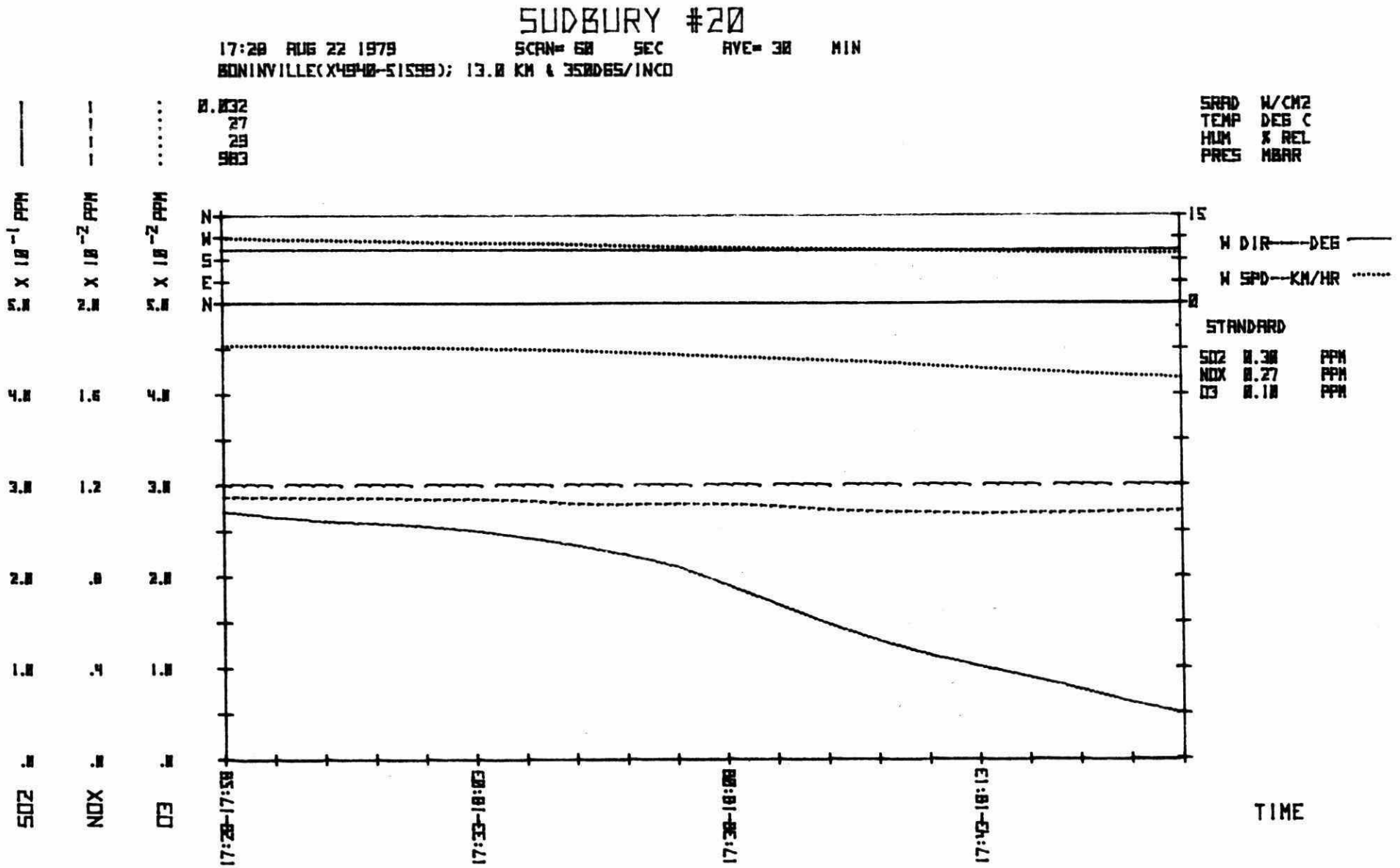

SUDBURY #18
14:44 AUG 22 1979
SCAN= 60 SEC
AVE= 30 MIN
HWY #63H(046B2-51597); 14.5 KM & 33BD65/INCO
0.068
31
18
985
0.066
31
18
985
SRAD W/CM2
TEMP DEG C
HUM % REL
PRES MBAR
W DIR----DEG
W SPD---KM/HR
STANDARD
SO2 0.30 PPM
NOX 0.27 PPM
O3 0.10 PPM
SO2
NOX
O3
TIME

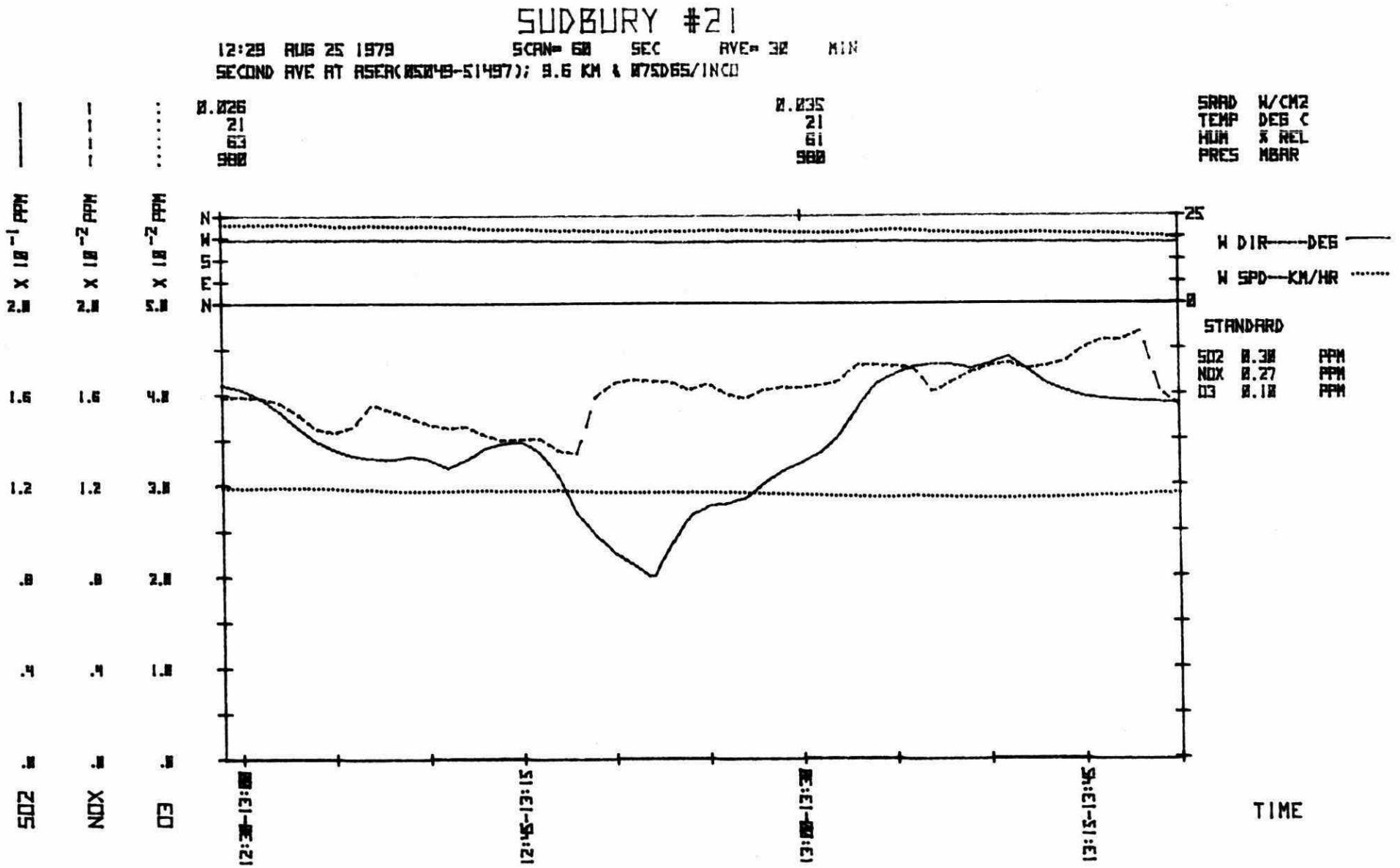
SUDBURY #19

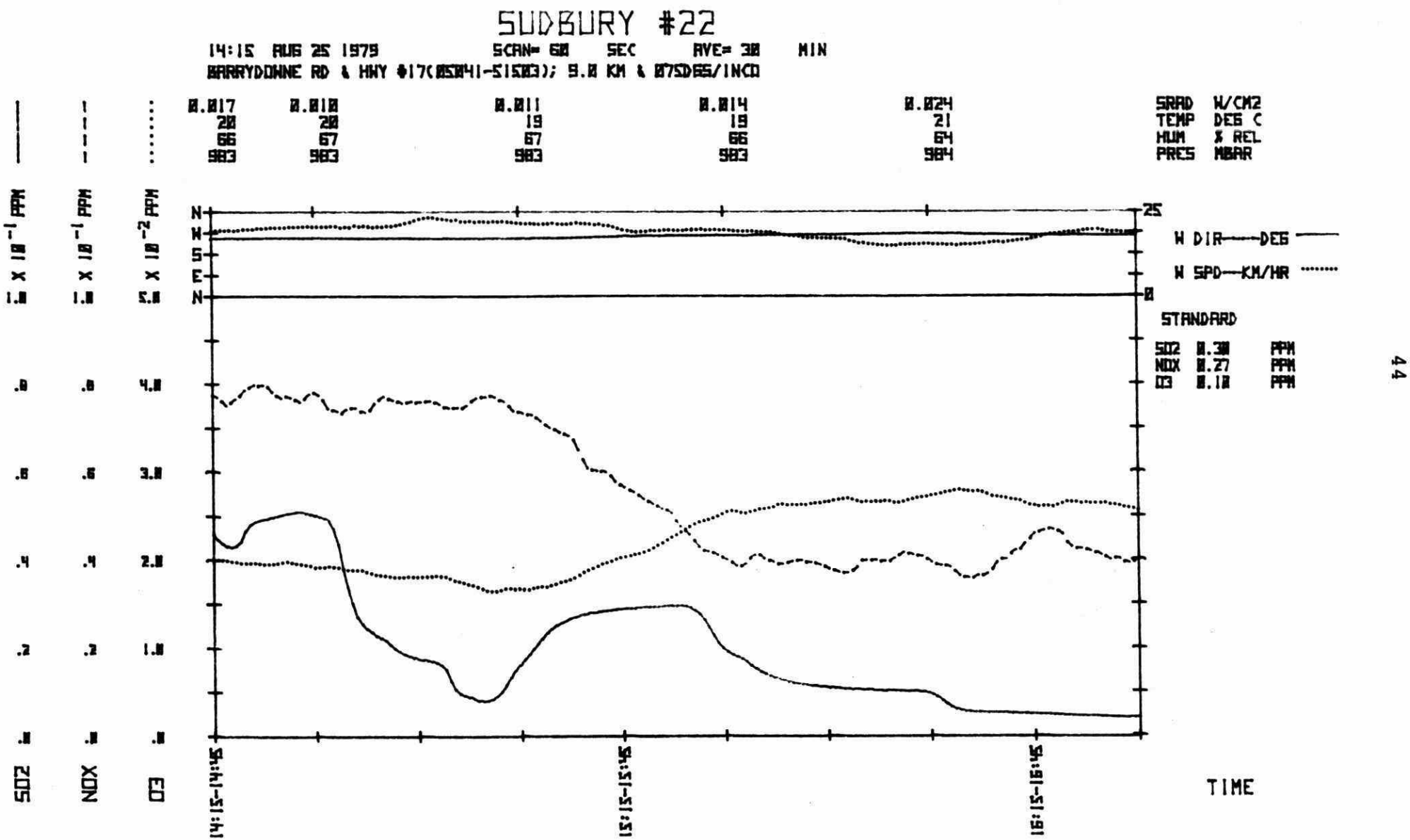
16:06 AUG 22 1979 SCAN= 60 SEC AVE= 30 MIN

HWY #634(04900-51598); 14.0 KM & 335DEG/INCO




SUDBURY #20
17:20 AUG 22 1979 SCAN= 60 SEC AVE= 30 MIN
BONINVILLE(X4940-51599); 13.0 KM & 350DEG/INCO
0.0032
27
29
983
SRAD W/CM2
TEMP DEG C
HUM % REL
PRES MBAR
5 X 10⁻¹ PPM
5 X 10⁻² PPM
5 X 10⁻² PPM
N
W
S
E
N
15
0
W DIR——DEG
W SPD--KM/HR
STANDARD
SO2 0.30 PPM
NOX 0.27 PPM
O3 0.10 PPM
5.0
4.0
3.0
2.0
1.0
.0
2.0
1.6
1.2
.8
.4
.0
5.0
4.0
3.0
2.0
1.0
.0
SO2
NOX
O3
17:28-17:58
17:33-18:03
17:38-18:08
17:43-18:13
TIME


SUDBURY #21
12:29 AUG 25 1979 SCAN= 60 SEC AVE= 30 MIN
SECOND AVE AT ASEA(050049-514970); 9.6 KM & 075D65/INCD
0.026
21
63
980
0.035
21
61
980
SRAD W/CM2
TEMP DEG C
HUM % REL
PRES MBAR
2 X 10⁻¹ PPM
2 X 10⁻² PPM
5 X 10⁻² PPM
N
E
S
W
N
25
0
W DIR----DEG
W SPD---KM/HR
STANDARD
SO2 0.30 PPM
NOX 0.27 PPM
O3 0.10 PPM
2.0
1.6
1.2
.8
.4
.0
SO2
NOX
O3
12:45-13:15
13:15-13:45
TIME


SUDBURY #22
14:15 AUG 25 1979
SCAN= 60 SEC
AVE= 30 MIN
BARRYDOWNE RD & HWY #17(0530'41-5153'03); 9.0 KM & 075DEG/INCD
0.017 0.010 0.011 0.014 0.024
28 28 19 19 21
66 67 67 66 64
983 983 983 983 984
SRAD W/CM2
TEMP DEG C
HUM % REL
PRES MBAR
PPM X 10⁻¹
PPM X 10⁻¹
PPM X 10⁻²
N
NE
E
SE
S
SW
W
NW
N
25
0
W DIR——DEG
W SPD—KM/HR
STANDARD
SO2 0.30 PPM
NOX 0.27 PPM
O3 0.10 PPM
.8
.6
.4
.2
.0
4.0
3.0
2.0
1.0
.0
SO2
NOX
O3
14:15-14:45
15:15-15:45
16:15-16:45
TIME

C. Monitoring Period Statistics

The contaminant concentrations are expressed as parts per million (ppm), solar radiation as watts/cm^2, temperature as ^oC, humidity as % relative humidity, barometric pressure as millibars, wind speed as km/hr, and wind direction as the compass reading (in degrees) from which the wind blows.

SUDBURY #1

DATE: AUG 14 1979
SCAN TIME: 150 SEC
AVERAGING TIME: 30 MIN
LOCATION: SHERATON HOTEL (X4995-51444): 5.0 KM & 125DGS/INCO

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
09:26----09:56	4.4E-03 1.3E+00 1.4E-02 978	1.9E+00 2.2E-02 1.2E-02 15	8.3E-04 7.4E-03 12 271	7.5E-01 1.6E-02 78
09:36----10:06	3.8E-03 1.3E+00 1.5E-02 978	2.0E+00 2.7E-02 1.2E-02 15	5.8E-04 1.0E-02 11 268	7.7E-01 1.8E-02 80
09:46----10:16	3.6E-03 1.3E+00 1.5E-02 978	2.0E+00 2.8E-02 1.4E-02 15	1.9E-04 1.2E-02 12 268	7.6E-01 1.8E-02 75
09:56----10:26	3.3E-03 1.3E+00 1.5E-02 978	2.0E+00 3.3E-02 1.7E-02 15	3.3E-04 1.4E-02 12 266	7.8E-01 2.1E-02 69
10:06----10:36	3.0E-03 1.3E+00 1.5E-02 978	2.0E+00 3.0E-02 1.7E-02 16	8.8E-04 1.3E-02 12 261	7.6E-01 1.9E-02 68
10:16----10:46	2.8E-03 1.3E+00 1.4E-02 978	2.0E+00 3.5E-02 1.5E-02 16	1.7E-03 1.4E-02 12 259	7.8E-01 2.2E-02 69
10:26----10:56	2.7E-03 1.3E+00 1.5E-02 978	2.1E+00 3.9E-02 1.6E-02 15	2.3E-03 1.6E-02 12 260	8.1E-01 2.4E-02 69
10:36----11:06	2.8E-03 1.3E+00 1.5E-02 978	2.1E+00 4.0E-02 1.9E-02 13	2.4E-03 1.5E-02 12 270	8.2E-01 2.7E-02 67
10:46----11:16	2.7E-03 1.4E+00 1.5E-02 978	2.2E+00 3.9E-02 2.3E-02 11	2.3E-03 1.6E-02 13 279	8.8E-01 2.5E-02 63
10:56----11:26	2.7E-03 1.4E+00 1.5E-02 978	2.1E+00 3.9E-02 2.1E-02 11	2.2E-03 1.6E-02 13 284	8.8E-01 2.5E-02 61

SUDBURY #1, CONT'D

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
11:06----11:36	2.4E-03 1.4E+00 1.5E-02 978	2.2E+00 4.5E-02 1.9E-02 12	2.4E-03 1.9E-02 13 276	9.3E-01 2.9E-02 60
11:16----11:46	2.3E-03 1.4E+00 1.5E-02 978	2.2E+00 4.7E-02 1.3E-02 13	2.5E-03 1.9E-02 13 268	9.0E-01 3.1E-02 62
11:26----11:56	2.2E-03 1.4E+00 1.6E-02 978	2.2E+00 4.6E-02 1.2E-02 15	2.3E-03 1.8E-02 13 261	9.0E-01 3.1E-02 63
11:36----12:06	2.3E-03 1.4E+00 1.7E-02 979	2.2E+00 3.9E-02 9.4E-03 16	1.9E-03 1.6E-02 12 265	8.9E-01 2.5E-02 63
11:46----12:16	2.2E-03 1.4E+00 1.7E-02 979	2.2E+00 3.6E-02 9.5E-03 15	1.7E-03 1.6E-02 12 265	9.3E-01 2.2E-02 62
11:56----12:26	2.2E-03 1.4E+00 1.7E-02 979	2.2E+00 3.1E-02 9.4E-03 13	1.5E-03 1.4E-02 12 274	9.0E-01 1.8E-02 60
12:06----12:36	2.1E-03 1.3E+00 1.7E-02 979	2.1E+00 2.9E-02 1.0E-02 13	1.3E-03 1.3E-02 12 276	8.7E-01 1.8E-02 59
12:16----12:46	2.0E-03 1.3E+00 1.6E-02 979	2.0E+00 2.8E-02 1.1E-02 11	1.2E-03 1.1E-02 12 284	8.1E-01 1.8E-02 58
12:26----12:56	1.8E-03 1.4E+00 1.5E-02 979	2.1E+00 3.3E-02 1.4E-02 11	1.4E-03 1.4E-02 13 284	8.7E-01 2.2E-02 57
12:36----13:06	1.8E-03 1.3E+00 1.5E-02 979	2.2E+00 3.6E-02 1.6E-02 10	1.6E-03 1.4E-02 13 282	8.8E-01 2.3E-02 56
12:46----13:16	1.7E-03 1.4E+00 1.5E-02 979	2.2E+00 4.1E-02 1.8E-02 11	1.9E-03 1.8E-02 13 279	9.0E-01 2.5E-02 55

SUDBURY #1, CONT'D

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
12:56----13:26	1.8E-03 1.4E+00 1.6E-02 979	2.3E+00 3.7E-02 1.8E-02 12	2.3E-03 1.6E-02 14 283	8.6E-01 2.3E-02 55

STATISTICS

NUMBER OF READINGS 97

POLLUTANT	MINIMUM VALUE	MAXIMUM VALUE	ARITHMETIC MEAN	STANDARD DEVIATION	GEOMETRIC MEAN	GEOMETRIC STD. DEV.
H2S	1.35E-03	5.46E-03	2.62E-03	8.94E-04	2.49E-03	1.36E+00
THC	1.83E+00	3.34E+00	2.12E+00	2.19E-01	2.11E+00	1.10E+00
SO2	1.00E-06	3.39E-03	1.66E-03	8.34E-04	1.02E-03	5.89E+00
THC-CH4	6.72E-01	1.23E+00	8.47E-01	1.15E-01	8.39E-01	1.14E+00
CH4	1.25E+00	1.65E+00	1.35E+00	7.21E-02	1.35E+00	1.05E+00
NOX	1.45E-02	7.19E-02	3.51E-02	1.10E-02	3.34E-02	1.37E+00
NO2	1.48E-03	3.36E-02	1.42E-02	7.28E-03	1.22E-02	1.81E+00
NO	8.78E-03	4.36E-02	2.26E-02	7.18E-03	2.15E-02	1.38E+00
OZONE	1.17E-02	1.83E-02	1.53E-02	1.37E-03	1.52E-02	1.09E+00
SOLAR RAD	6.88E-03	3.09E-02	1.49E-02	5.23E-03	1.40E-02	1.42E+00
TEMP	11	14	13	1		
HUMIDITY	53	91	64	8	63	1
BAROMETER	977	979	978	1	978	1
WIND SPEED	7	25	14	4	13	1

	MAXIMUM AVERAGE
H2S	4.36E-03
THC	2.27E+00
SO2	2.46E-03
THC-CH4	9.31E-01
CH4	1.44E+00
NOX	4.71E-02
NO2	1.94E-02
NO	3.10E-02
OZONE	1.69E-02
SOLAR RAD	2.29E-02
TEMP	14
HUMIDITY	80
BAROMETER	979
WIND SPEED	16
WIND DIRECTION	284

SUDBURY #2

DATE: AUG 14 1979
SCAN TIME: 150 SEC
AVERAGING TIME: 30 MIN
LOCATION: SHERATON HOTEL (X4995-51444); 5.0 KM @ 125DGS/INCO

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
15:17----15:47	1.5E-03 1.3E+00 1.6E-02 980	2.0E+00 3.4E-02 1.0E-02 10	3.1E-03 1.3E-02 13 273	9.1E-01 1.7E-02 58
15:32----16:02	1.4E-03 1.3E+00 1.5E-02 980	2.1E+00 3.5E-02 1.1E-02 12	3.6E-03 1.6E-02 13 275	9.4E-01 2.1E-02 57
15:47----16:17	1.6E-03 1.3E+00 1.5E-02 980	2.0E+00 3.7E-02 1.2E-02 11	3.7E-03 1.5E-02 13 284	7.6E-01 2.5E-02 56
16:02----16:32	1.9E-03 1.3E+00 1.4E-02 980	1.9E+00 3.0E-02 1.4E-02 13	3.5E-03 9.5E-03 14 290	7.5E-01 2.2E-02 56
16:17----16:47	1.8E-03 1.2E+00 1.3E-02 980	1.9E+00 2.9E-02 1.4E-02 12	3.7E-03 9.7E-03 14 290	8.0E-01 2.1E-02 55
16:32----17:02	1.8E-03 1.2E+00 1.2E-02 980	2.0E+00 3.6E-02 1.1E-02 9	5.4E-03 1.1E-02 14 283	8.0E-01 2.6E-02 56
[illegible]----17:17	1.9E-03 1.2E+00 1.2E-02 981	1.9E+00 3.8E-02 9.7E-03 9	8.4E-03 1.3E-02 14 281	7.8E-01 2.7E-02 57
[illegible]----17:32	2.1E-03 1.3E+00 1.2E-02 981	1.9E+00 3.3E-02 9.1E-03 11	2.3E-02 1.2E-02 14 288	7.5E-01 2.3E-02 59
[illegible]----17:47	2.2E-03 1.2E+00 1.3E-02 981	1.9E+00 2.7E-02 1.1E-02 12	2.4E-02 8.9E-03 14 288	7.2E-01 1.9E-02 59
17:?2----18:02	2.3E-03 1.2E+00 1.4E-02 981	1.9E+00 2.6E-02 1.1E-02 12	9.9E-03 7.6E-03 14 280	7.5E-01 1.9E-02 59

SUDBURY #2, CONT'D

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
17:47----18:17	2.4E-03 1.2E+00 1.4E-02 981	1.9E+00 2.5E-02 9.9E-03 12	2.5E-02 7.2E-03 14 282	7.9E-01 1.9E-02 59
18:02----18:32	2.6E-03 1.2E+00 1.4E-02 981	1.9E+00 2.3E-02 1.0E-02 11	3.6E-02 8.9E-03 14 291	7.7E-01 1.6E-02 59
18:17----18:47	2.7E-03 1.2E+00 1.4E-02 981	1.9E+00 2.1E-02 9.4E-03 10	2.2E-02 7.7E-03 14 292	7.8E-01 1.4E-02 60
18:32----19:02	2.6E-03 1.2E+00 1.4E-02 982	1.9E+00 1.9E-02 8.1E-03 10	1.9E-02 6.9E-03 14 286	7.5E-01 1.3E-02 60
18:47----19:17	2.5E-03 1.2E+00 1.4E-02 982	1.9E+00 2.1E-02 7.5E-03 11	1.9E-02 9.1E-03 14 285	7.4E-01 1.3E-02 61
19:02----19:32	2.7E-03 1.2E+00 1.4E-02 982	2.0E+00 2.1E-02 6.4E-03 10	6.3E-02 9.0E-03 14 287	7.9E-01 1.4E-02 63
19:17----19:47	2.8E-03 1.2E+00 1.4E-02 982	2.2E+00 2.0E-02 3.8E-03 10	6.1E-02 7.9E-03 13 288	1.1E+00 1.3E-02 65
19:32----20:02	2.8E-03 1.2E+00 1.4E-02 982	2.3E+00 2.2E-02 2.4E-03 12	9.5E-03 9.7E-03 13 283	1.1E+00 1.4E-02 68
19:47----20:17	2.7E-03 1.2E+00 1.4E-02 982	2.0E+00 2.2E-02 1.5E-03 12	2.5E-02 1.0E-02 13 284	8.3E-01 1.3E-02 69
20:02----20:32	2.7E-03 1.2E+00 1.5E-02 982	1.9E+00 1.9E-02 6.6E-04 10	3.9E-02 9.7E-03 13 289	7.7E-01 1.1E-02 70
20:17----20:47	2.8E-03 1.2E+00 1.6E-02 983	1.8E+00 1.6E-02 2.8E-04 10	3.0E-02 8.3E-03 13 291	7.0E-01 8.8E-03 71

SUDBURY #2, CONT'D

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
20:32----21:02	2.7E-03 1.2E+00 1.7E-02 983	1.8E+00 1.5E-02 7.8E-05 11	1.7E-02 7.2E-03 13 296	6.4E-01 8.6E-03 72
20:47----21:17	2.7E-03 1.2E+00 1.7E-02 983	1.8E+00 1.6E-02 1.9E-05 11	1.4E-02 7.1E-03 12 296	6.4E-01 9.2E-03 72
21:02----21:32	2.6E-03 1.3E+00 1.7E-02 983	1.8E+00 1.5E-02 3.3E-06 12	2.8E-02 6.4E-03 12 292	6.4E-01 9.0E-03 73
21:17----21:47	2.7E-03 1.3E+00 1.7E-02 984	1.8E+00 1.3E-02 3.0E-06 11	3.3E-02 5.7E-03 12 296	6.4E-01 8.2E-03 75
21:32----22:02	2.7E-03 1.2E+00 1.8E-02 984	1.8E+00 1.1E-02 4.6E-06 12	1.9E-02 4.9E-03 12 300	6.4E-01 7.0E-03 75
21:47----22:17	2.7E-03 1.2E+00 1.8E-02 984	1.8E+00 1.4E-02 4.9E-06 12	3.9E-02 6.8E-03 12 297	6.5E-01 7.5E-03 75
22:02----22:32	2.8E-03 1.2E+00 1.7E-02 984	1.8E+00 1.3E-02 3.6E-06 12	5.7E-02 7.0E-03 12 293	6.6E-01 7.1E-03 75
22:17----22:47	2.8E-03 1.2E+00 1.8E-02 984	1.8E+00 1.1E-02 3.8E-06 14	2.7E-02 4.9E-03 12 294	6.4E-01 6.9E-03 77
22:32----23:02	2.7E-03 1.2E+00 1.9E-02 984	1.8E+00 1.1E-02 3.9E-06 12	8.9E-03 4.9E-03 12 301	6.2E-01 6.8E-03 77
22:47----23:17	2.5E-03 1.2E+00 2.0E-02 985	1.7E+00 1.0E-02 4.1E-06 12	7.6E-03 4.8E-03 12 303	6.0E-01 5.9E-03 78
23:02----23:32	2.4E-03 1.3E+00 2.0E-02 985	1.7E+00 1.1E-02 3.6E-06 13	7.2E-03 4.8E-03 12 300	6.0E-01 6.7E-03 80

SUDBURY #2, CONT'D

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
23:17---23:47	2.3E-03 1.2E+00 2.0E-02 985	1.7E+00 1.1E-02 2.9E-06 11	7.0E-03 4.7E-03 11 302	6.1E-01 7.0E-03 81
23:32----00:02	2.2E-03 1.2E+00 2.1E-02 985	1.7E+00 9.4E-03 3.4E-06 9	6.8E-03 3.7E-03 11 314	6.1E-01 6.1E-03 80
23:47----00:17	2.1E-03 1.2E+00 2.2E-02 985	1.7E+00 8.7E-03 4.1E-06 9	6.7E-03 3.8E-03 12 319	6.1E-01 5.3E-03 77
00:02----00:32	2.0E-03 1.2E+00 2.2E-02 985	1.7E+00 8.4E-03 4.7E-06 9	6.6E-03 3.8E-03 12 318	6.2E-01 4.8E-03 77
00:17----00:47	2.0E-03 1.2E+00 2.3E-02 985	1.7E+00 7.1E-03 4.0E-06 9	6.6E-03 3.3E-03 12 316	6.0E-01 4.1E-03 77
00:32----01:02	1.9E-03 1.2E+00 2.3E-02 985	1.7E+00 7.1E-03 6.3E-06 10	1.1E-02 3.1E-03 12 309	5.9E-01 4.2E-03 76
00:47----01:17	1.9E-03 1.3E+00 2.4E-02 985	1.7E+00 6.7E-03 7.4E-06 12	1.2E-02 2.7E-03 12 310	5.7E-01 4.1E-03 75
01:02----01:32	2.0E-03 1.3E+00 2.4E-02 986	1.7E+00 7.3E-03 5.1E-06 11	8.9E-03 3.2E-03 12 313	5.8E-01 4.5E-03 74
01:17----01:47	2.0E-03 1.2E+00 2.4E-02 986	1.7E+00 7.5E-03 5.2E-06 11	7.3E-03 3.4E-03 12 317	6.1E-01 4.6E-03 73
01:32----02:02	1.9E-03 1.2E+00 2.5E-02 986	1.7E+00 6.1E-03 4.2E-06 11	7.0E-03 2.4E-03 12 320	6.0E-01 3.9E-03 71
01:47----02:17	1.8E-03 1.2E+00 2.6E-02 986	1.7E+00 5.5E-03 3.0E-06 12	6.9E-03 1.9E-03 12 314	5.8E-01 3.7E-03 71

SUDBURY #2, CONT'D

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
02:02----02:32	1.7E-03 1.2E+00 2.6E-02 986	1.7E+00 5.5E-03 2.9E-06 13	6.8E-03 2.0E-03 12 313	5.8E-01 3.7E-03 71
02:17----02:47	1.6E-03 1.2E+00 2.6E-02 986	1.7E+00 5.5E-03 2.0E-06 12	6.8E-03 2.3E-03 12 313	5.8E-01 3.4E-03 70
02:32----03:02	1.6E-03 1.2E+00 2.6E-02 986	1.7E+00 5.9E-03 2.1E-06 9	6.7E-03 2.6E-03 12 314	5.7E-01 3.5E-03 70
02:47----03:17	1.6E-03 1.3E+00 2.6E-02 986	1.7E+00 6.8E-03 5.5E-06 9	2.0E-02 2.8E-03 12 310	5.7E-01 4.2E-03 69
03:02----03:32	1.8E-03 1.2E+00 2.6E-02 986	1.7E+00 6.6E-03 6.2E-06 10	2.1E-02 2.5E-03 12 304	5.8E-01 4.2E-03 69
03:17----03:47	1.8E-03 1.2E+00 2.6E-02 986	1.7E+00 6.3E-03 3.8E-06 8	8.2E-03 2.5E-03 12 310	5.8E-01 4.0E-03 69
03:32----04:02	1.8E-03 1.2E+00 2.6E-02 986	1.7E+00 6.3E-03 4.1E-06 8	7.3E-03 2.3E-03 12 307	5.8E-01 4.1E-03 69
03:47----04:17	1.7E-03 1.2E+00 2.6E-02 986	1.7E+00 6.1E-03 3.5E-06 9	7.5E-03 2.0E-03 12 306	5.8E-01 4.0E-03 69
04:02----04:32	1.7E-03 1.2E+00 2.5E-02 986	1.7E+00 5.7E-03 2.8E-06 7	7.5E-03 1.9E-03 12 312	5.8E-01 3.9E-03 69
04:17----04:47	1.6E-03 1.3E+00 2.4E-02 987	1.7E+00 6.8E-03 2.8E-06 8	7.0E-03 3.2E-03 12 308	5.7E-01 3.9E-03 70
04:32----05:02	1.6E-03 1.3E+00 2.4E-02 987	1.7E+00 7.3E-03 2.7E-06 10	6.9E-03 4.0E-03 12 307	5.7E-01 3.6E-03 72

SUDBURY #2, CONT'D

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
04:47----05:17	1.6E-03 1.2E+00 2.5E-02 987	1.7E+00 6.0E-03 4.4E-06 10	6.8E-03 2.4E-03 12 311	5.8E-01 3.7E-03 72
05:02----05:32	1.5E-03 1.2E+00 2.5E-02 987	1.7E+00 5.7E-03 5.4E-06 9	6.7E-03 1.7E-03 12 312	5.9E-01 4.0E-03 70
05:17----05:47	1.5E-03 1.2E+00 2.5E-02 987	1.7E+00 6.0E-03 4.4E-06 9	6.7E-03 2.4E-03 12 311	5.9E-01 3.9E-03 69
05:32----06:02	1.4E-03 1.2E+00 2.5E-02 987	1.7E+00 6.4E-03 2.8E-06 10	1.0E-02 3.1E-03 12 311	5.9E-01 3.6E-03 71
05:47----06:17	1.6E-03 1.2E+00 2.5E-02 987	1.7E+00 6.2E-03 9.6E-06 10	1.2E-02 2.8E-03 12 312	5.9E-01 3.7E-03 73
06:02----06:32	1.7E-03 1.2E+00 2.5E-02 987	1.7E+00 6.6E-03 7.6E-05 9	8.7E-03 3.4E-03 12 315	5.9E-01 3.3E-03 74
06:17----06:47	1.5E-03 1.2E+00 2.4E-02 988	1.7E+00 7.4E-03 2.8E-04 9	7.2E-03 4.0E-03 11 316	5.9E-01 3.6E-03 80
06:32----07:02	1.4E-03 1.3E+00 2.3E-02 988	1.7E+00 7.9E-03 5.1E-04 9	6.9E-03 4.3E-03 11 312	5.9E-01 4.0E-03 89
06:47----07:17	1.4E-03 1.3E+00 2.2E-02 988	1.7E+00 9.4E-03 8.7E-04 9	6.8E-03 6.1E-03 11 311	5.9E-01 3.9E-03 92
07:02----07:32	1.4E-03 1.3E+00 1.9E-02 988	1.8E+00 1.3E-02 1.4E-03 7	6.7E-03 9.1E-03 11 316	6.2E-01 4.6E-03 92
07:17----07:47	1.4E-03 1.3E+00 1.9E-02 988	1.8E+00 1.6E-02 2.0E-03 8	6.9E-03 1.0E-02 11 320	6.5E-01 6.7E-03 89

SUDBURY #2, CONT'D

TIME

H2S THC SO2 THC-CH4
CH4 NOX NO2 NO
OZONE SOLAR RAD TEMP HUMIDITY
BAROMETER WIND SPEED WIND DIRECTION

STATISTICS

NUMBER OF READINGS 398

POLLUTANT	MINIMUM VALUE	MAXIMUM VALUE	ARITHMETIC MEAN	STANDARD DEVIATION	GEOMETRIC MEAN	GEOMETRIC STD. DEV.
H2S	9.71E-04	3.15E-03	2.05E-03	4.98E-04	1.99E-03	1.28E+00
THC	1.68E+00	3.29E+00	1.80E+00	1.67E-01	1.80E+00	1.08E+00
SO2	2.14E-03	2.20E-01	1.48E-02	2.23E-02	9.66E-03	2.16E+00
THC-CH4	5.54E-01	2.94E+00	6.70E-01	1.75E-01	6.57E-01	1.19E+00
CH4	1.21E+00	1.61E+00	1.25E+00	2.84E-02	1.25E+00	1.02E+00
NOX	4.47E-03	6.00E-02	1.45E-02	1.03E-02	1.17E-02	1.90E+00
NO2	1.00E-06	2.54E-02	6.06E-03	4.80E-03	4.28E-03	2.96E+00
NO	1.82E-03	4.17E-02	9.14E-03	7.38E-03	7.04E-03	2.00E+00
OZONE	9.51E-03	2.67E-02	1.97E-02	4.85E-03	1.91E-02	1.30E+00
SOLAR RAD	1.00E-06	1.65E-02	2.80E-03	4.58E-03	6.30E-05	3.86E+01
TEMP	11	14	12	1		
HUMIDITY	54	96	71	9	70	1
BAROMETER	980	989	984	3	984	1
WIND SPEED	2	22	11	3	10	1

SUDBURY #3

DATE: AUG 15 1979
SCAN TIME: 60 SEC
AVERAGING TIME: 30 MIN
LOCATION: BYPASS & SOUTHVIEW DR(04960-51427); 4.5 KM & 180 DGS/INCO

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
15:03----15:33	2.0E-03 1.6E+00 2.7E-02 992	2.3E+00 1.7E-02 5.7E-02 19	3.7E-01 7.9E-03 20 30	7.0E-01 1.1E-02 38
15:08----15:38	2.3E-03 1.6E+00 2.7E-02 992	2.3E+00 1.6E-02 5.7E-02 19	3.4E-01 6.9E-03 20 30	7.0E-01 1.1E-02 37
15:13----15:43	2.6E-03 1.6E+00 2.7E-02 992	2.3E+00 1.7E-02 5.4E-02 19	3.4E-01 7.5E-03 20 34	7.0E-01 1.1E-02 37
15:18----15:48	2.8E-03 1.6E+00 2.7E-02 992	2.4E+00 1.6E-02 4.9E-02 19	2.9E-01 7.3E-03 20 34	7.1E-01 1.0E-02 37
15:23----15:53	2.9E-03 1.6E+00 2.7E-02 992	2.4E+00 1.7E-02 5.3E-02 20	3.1E-01 7.7E-03 20 34	7.3E-01 1.1E-02 37
15:28----15:58	3.0E-03 1.6E+00 2.7E-02 992	2.4E+00 1.7E-02 5.5E-02 20	2.2E-01 8.7E-03 20 34	8.4E-01 1.1E-02 37
15:33----16:03	3.0E-03 1.7E+00 2.7E-02 992	2.4E+00 1.8E-02 5.5E-02 19	1.4E-01 7.9E-03 20 30	8.4E-01 1.2E-02 36
15:38----16:08	3.0E-03 1.7E+00 2.7E-02 992	2.4E+00 2.0E-02 5.9E-02 19	1.2E-01 8.5E-03 20 27	8.4E-01 1.3E-02 35
15:43----16:13	2.9E-03 1.7E+00 2.6E-02 992	2.5E+00 2.2E-02 6.1E-02 18	1.4E-01 9.5E-03 21 26	8.6E-01 1.4E-02 34
15:48----16:18	2.8E-03 1.7E+00 2.7E-02 992	2.4E+00 2.1E-02 6.5E-02 19	1.3E-01 8.3E-03 21 24	9.3E-01 1.5E-02 34

SUDBURY #3, CONT'D

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
15:53----16:23	2.7E-03 1.7E+00 2.7E-02 992	2.4E+00 2.1E-02 6.3E-02 18	8.4E-02 9.2E-03 21 19	9.0E-01 1.4E-02 34
15:58----16:28	2.6E-03 1.7E+00 2.7E-02 992	2.4E+00 2.1E-02 6.0E-02 19	4.4E-02 7.3E-03 21 14	7.9E-01 1.6E-02 34
16:03----16:33	2.4E-03 1.7E+00 2.7E-02 992	2.4E+00 2.0E-02 6.0E-02 19	3.7E-02 8.1E-03 21 17	8.3E-01 1.6E-02 35

STATISTICS

NUMBER OF READINGS 90

POLLUTANT	MINIMUM VALUE	MAXIMUM VALUE	ARITHMETIC MEAN	STANDARD DEVIATION	GEOMETRIC MEAN	GEOMETRIC STD. DEV.
H2S	1.23E-03	3.76E-03	2.49E-03	5.74E-04	2.42E-03	1.28E+00
THC	2.28E+00	3.55E+00	2.38E+00	1.80E-01	2.37E+00	1.07E+00
SO2	5.42E-03	2.08E+00	1.82E-01	3.33E-01	5.27E-02	4.83E+00
THC-CH4	6.44E-01	2.10E+00	7.87E-01	2.61E-01	7.62E-01	1.26E+00
CH4	1.62E+00	1.77E+00	1.65E+00	2.59E-02	1.65E+00	1.02E+00
NOX	5.83E-03	5.33E-02	1.85E-02	7.92E-03	1.70E-02	1.50E+00
NO2	1.00E-06	3.04E-02	7.96E-03	7.37E-03	1.76E-03	2.76E+01
NO	4.69E-03	4.39E-02	1.28E-02	7.28E-03	1.14E-02	1.61E+00
OZONE	2.26E-02	2.97E-02	2.69E-02	1.52E-03	2.69E-02	1.06E+00
SOLAR RAD	1.41E-02	8.12E-02	5.74E-02	1.84E-02	5.33E-02	1.53E+00
TEMP	19	22	20	1		
HUMIDITY	18	40	36	3	36	1
BAROMETER	992	993	992	0	992	1
WIND SPEED	10	37	20	5	19	1

SUDBURY #4

DATE: AUG 15 1979
SCAN TIME: 60 SEC
AVERAGING TIME: 30 MIN
LOCATION: BYPASS (04965-51427): 4.5 KM & 170DGS/INCO

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
16:51----17:21	2.2E-03 1.6E+00 2.8E-02 991	2.3E+00 3.1E-02 3.6E-02 18	1.3E-01 1.4E-02 20 198	7.4E-01 3.4E-02 34
16:56----17:26	2.2E-03 1.6E+00 2.8E-02 991	2.3E+00 3.1E-02 2.9E-02 19	1.6E-01 1.3E-02 20 199	8.9E-01 3.5E-02 35
17:01----17:31	2.2E-03 1.6E+00 2.8E-02 991	2.3E+00 3.0E-02 3.1E-02 19	1.4E-01 1.3E-02 19 200	8.8E-01 3.6E-02 35
17:06----17:36	2.2E-03 1.6E+00 2.8E-02 991	2.3E+00 2.8E-02 2.8E-02 19	4.2E-02 1.1E-02 19 199	8.6E-01 3.5E-02 35

STATISTICS

NUMBER OF READINGS 47

POLLUTANT	MINIMUM VALUE	MAXIMUM VALUE	ARITHMETIC MEAN	STANDARD DEVIATION	GEOMETRIC MEAN	GEOMETRIC STD. DEV.
H2S	1.42E-03	3.12E-03	2.15E-03	3.02E-04	2.13E-03	1.15E+00
THC	2.25E+00	2.75E+00	2.32E+00	1.06E-01	2.32E+00	1.04E+00
SO2	4.81E-03	8.62E-01	1.03E-01	1.98E-01	2.66E-02	4.64E+00
THC-CH4	6.69E-01	4.81E+00	8.18E-01	6.02E-01	7.57E-01	1.34E+00
CH4	1.57E+00	1.93E+00	1.60E+00	5.16E-02	1.60E+00	1.03E+00
NOX	5.80E-03	8.23E-02	2.85E-02	1.95E-02	2.28E-02	1.99E+00
NO2	1.00E-06	8.10E-02	1.10E-02	1.94E-02	1.51E-04	1.02E+02
NO	4.55E-03	1.50E-01	3.13E-02	3.04E-02	2.14E-02	2.42E+00
OZONE	2.25E-02	3.04E-02	2.81E-02	1.59E-03	2.81E-02	1.06E+00
SOLAR RAD	1.18E-02	6.90E-02	3.52E-02	1.93E-02	3.00E-02	1.78E+00
TEMP	19	21	20	1		
HUMIDITY	31	38	34	2	34	1
BAROMETER	990	991	991	0	991	1
WIND SPEED	2	28	19	6	18	2

SUDBURY #5

DATE: AUG 16 1979
SCAN TIME: 60 SEC
AVERAGING TIME: 30 MIN
LOCATION: PARIS ST HOSPITAL(05007-51470); 5.0 KM & 090DGS/INCO

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
13:30----14:00	2.2E-03 1.2E+00 2.7E-02 992	2.8E+00 3.0E-02 6.0E-02 3	2.9E-01 1.5E-02 24 290	1.3E+00 2.0E-02 22
13:40----14:10	2.8E-03 1.2E+00 2.8E-02 992	2.9E+00 4.0E-02 6.2E-02 3	2.3E-01 1.8E-02 25 282	1.4E+00 2.6E-02 20
13:50----14:20	2.5E-03 1.2E+00 2.6E-02 992	2.6E+00 4.6E-02 4.8E-02 4	1.1E-01 2.1E-02 24 272	1.3E+00 2.8E-02 21
14:00----14:30	2.4E-03 1.2E+00 2.5E-02 992	2.7E+00 5.0E-02 4.0E-02 4	1.8E-01 2.5E-02 23 303	1.3E+00 2.8E-02 24
14:10----14:40	2.6E-03 1.2E+00 2.5E-02 992	2.4E+00 3.7E-02 4.4E-02 4	3.2E-01 2.1E-02 23 311	1.2E+00 1.9E-02 24
14:20----14:50	3.0E-03 1.2E+00 2.5E-02 992	2.4E+00 3.3E-02 4.2E-02 4	3.6E-01 1.8E-02 24 302	1.4E+00 1.8E-02 23
14:30----15:00	3.4E-03 1.2E+00 2.7E-02 992	2.3E+00 2.9E-02 5.0E-02 6	2.6E-01 1.6E-02 23 282	1.3E+00 1.5E-02 22

STATISTICS

NUMBER OF READINGS 93

POLLUTANT	MINIMUM VALUE	MAXIMUM VALUE	ARITHMETIC MEAN	STANDARD DEVIATION	GEOMETRIC MEAN	GEOMETRIC STD. DEV.
H2S	1.16E-06	6.16E-03	2.68E-03	1.08E-03	2.21E-03	2.69E+00
THC	2.15E+00	1.01E+01	2.59E+00	1.15E+00	2.47E+00	1.29E+00
SO2	4.79E-03	8.70E-01	2.34E-01	2.45E-01	1.16E-01	3.81E+00
THC-CH4	9.68E-01	4.71E+00	1.31E+00	6.06E-01	1.24E+00	1.33E+00
CH4	1.12E+00	1.40E+00	1.17E+00	5.01E-02	1.17E+00	1.04E+00
NOX	1.11E-02	2.20E-01	3.56E-02	3.33E-02	2.85E-02	1.83E+00
NO2	1.00E-06	1.18E-01	1.85E-02	1.96E-02	6.56E-03	1.65E+01
NO	2.24E-03	2.28E-01	2.06E-02	2.87E-02	1.34E-02	2.34E+00
OZONE	1.60E-02	3.23E-02	2.66E-02	4.04E-03	2.62E-02	1.18E+00
SOLAR RAD	1.75E-02	9.48E-02	4.88E-02	2.46E-02	4.31E-02	1.65E+00
TEMP	21	28	23	2		
HUMIDITY	0	28	23	4	22	2
BAROMETER	991	993	992	0	992	1
WIND SPEED	0	21	6	5	3	4

SUDBURY #6

DATE: AUG 16 1979
SCAN TIME: 60 SEC
AVERAGING TIME: 30 MIN
LOCATION: HWY 69 & RR TRACKS(X5011-51505); 6.5KM&060DGS/INCO

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
15:39----16:09	1.3E-03 1.2E+00 3.3E-02 993	2.2E+00 8.0E-03 5.7E-02 12	8.9E-02 5.9E-03 23 243	1.0E+00 5.5E-03 25
15:44----16:14	1.2E-03 1.2E+00 3.3E-02 993	2.2E+00 8.7E-03 5.8E-02 11	1.6E-01 6.5E-03 23 236	1.0E+00 5.7E-03 25
15:49----16:19	1.2E-03 1.1E+00 3.3E-02 993	2.2E+00 8.2E-03 6.0E-02 13	1.7E-01 6.8E-03 23 231	1.0E+00 1.9E-03 25
15:54----16:24	1.3E-03 1.1E+00 3.3E-02 993	2.2E+00 8.2E-03 6.1E-02 14	1.7E-01 6.9E-03 23 231	1.0E+00 1.9E-03 26
15:59----16:29	1.4E-03 1.2E+00 3.4E-02 993	2.2E+00 8.1E-03 5.9E-02 13	1.7E-01 6.8E-03 23 236	1.0E+00 1.7E-03 25
16:04----16:34	1.5E-03 1.2E+00 3.4E-02 992	2.2E+00 8.0E-03 6.2E-02 12	1.7E-01 6.8E-03 23 238	1.0E+00 1.6E-03 25
16:09----16:39	1.5E-03 1.2E+00 3.4E-02 992	2.2E+00 7.3E-03 6.4E-02 12	8.0E-02 6.3E-03 23 239	1.0E+00 1.3E-03 25
16:14----16:44	1.5E-03 1.2E+00 3.4E-02 992	2.2E+00 6.6E-03 5.6E-02 12	1.0E-02 5.6E-03 23 243	1.0E+00 1.2E-03 25
16:19----16:49	1.4E-03 1.2E+00 3.4E-02 992	2.2E+00 6.3E-03 5.3E-02 10	1.9E-03 5.3E-03 23 249	1.0E+00 1.2E-03 25
16:24----16:54	1.2E-03 1.2E+00 3.4E-02 992	2.2E+00 6.5E-03 4.5E-02 10	1.1E-03 5.3E-03 23 245	1.0E+00 1.4E-03 26

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
16:29----16:59	1.2E-03 1.2E+00 3.3E-02 992	2.2E+00 7.3E-03 3.8E-02 9	1.1E-01 5.8E-03 22 234	1.0E+00 1.8E-03 27
16:34----17:04	1.3E-03 1.2E+00 3.3E-02 992	2.2E+00 8.7E-03 3.2E-02 9	3.4E-01 6.9E-03 22 230	1.0E+00 2.2E-03 27
16:39----17:09	1.6E-03 1.2E+00 3.2E-02 992	2.2E+00 9.7E-03 3.0E-02 10	6.4E-01 7.7E-03 22 229	1.0E+00 2.4E-03 28

STATISTICS

NUMBER OF READINGS 91

POLLUTANT	MINIMUM VALUE	MAXIMUM VALUE	ARITHMETIC MEAN	STANDARD DEVIATION	GEOMETRIC MEAN	GEOMETRIC STD. DEV.
H2S	3.35E-05	3.78E-03	1.51E-03	6.89E-04	1.34E-03	1.76E+00
THC	2.14E+00	2.78E+00	2.18E+00	7.00E-02	2.18E+00	1.03E+00
SO2	1.00E-06	2.65E+00	2.75E-01	5.59E-01	7.16E-03	2.99E+01
THC-CH4	9.72E-01	1.13E+00	1.02E+00	2.86E-02	1.02E+00	1.03E+00
CH4	1.14E+00	1.19E+00	1.16E+00	9.96E-03	1.16E+00	1.01E+00
NOX	4.11E-03	2.66E-02	8.36E-03	3.48E-03	7.83E-03	1.41E+00
NO2	1.00E-06	1.38E-02	6.66E-03	2.61E-03	5.75E-03	2.66E+00
NO	1.00E-06	5.98E-02	3.06E-03	8.62E-03	1.16E-03	5.92E+00
OZONE	2.90E-02	3.56E-02	3.31E-02	1.60E-03	3.31E-02	1.05E+00
SOLAR RAD	1.73E-02	8.12E-02	5.06E-02	2.13E-02	4.52E-02	1.67E+00
TEMP	21	25	23	1		
HUMIDITY	22	30	26	2	26	1
BAROMETER	992	993	992	0	992	1
WIND SPEED	1	22	12	4	11	2

SUDBURY #7

DATE: AUG 17 1979
SCAN TIME: 60 SEC
AVERAGING TIME: 30 MIN
LOCATION: VAL CARON(04993-51616);15.0 KM & 015DGS/INCO

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
12:43----13:13	3.2E-03 1.2E+00 4.4E-02 985	2.2E+00 2.4E-02 5.0E-02 17	9.0E-02 1.1E-02 23 218	9.8E-01 1.8E-02 34
12:48----13:18	3.0E-03 1.2E+00 4.5E-02 985	2.2E+00 2.4E-02 4.6E-02 17	7.3E-02 1.1E-02 22 216	9.7E-01 1.6E-02 34
12:53----13:23	2.9E-03 1.2E+00 4.5E-02 985	2.2E+00 2.3E-02 4.1E-02 16	7.0E-02 1.0E-02 22 214	9.9E-01 1.7E-02 34
12:58----13:28	2.8E-03 1.2E+00 4.5E-02 985	2.2E+00 2.1E-02 3.5E-02 17	6.9E-02 9.2E-03 22 216	9.7E-01 1.6E-02 34

STATISTICS

NUMBER OF READINGS 47

POLLUTANT	MINIMUM VALUE	MAXIMUM VALUE	ARITHMETIC MEAN	STANDARD DEVIATION	GEOMETRIC MEAN	GEOMETRIC STD. DEV.
H2S	9.96E-04	4.71E-03	3.04E-03	6.19E-04	2.97E-03	1.27E+00
THC	2.08E+00	3.00E+00	2.17E+00	1.56E-01	2.17E+00	1.07E+00
SO2	8.02E-03	5.38E-01	6.83E-02	1.05E-01	3.48E-02	2.91E+00
THC-CH4	8.65E-01	1.62E+00	9.72E-01	1.38E-01	9.64E-01	1.13E+00
CH4	1.20E+00	1.29E+00	1.22E+00	1.34E-02	1.22E+00	1.01E+00
NOX	7.94E-03	5.53E-02	2.22E-02	1.15E-02	1.96E-02	1.65E+00
NO2	1.00E-06	3.33E-02	1.00E-02	9.69E-03	1.11E-03	5.48E+01
NO	5.51E-03	5.11E-02	1.73E-02	9.69E-03	1.52E-02	1.67E+00
OZONE	3.75E-02	4.87E-02	4.42E-02	2.72E-03	4.41E-02	1.06E+00
SOLAR RAD	1.54E-02	8.12E-02	4.18E-02	1.79E-02	3.82E-02	1.55E+00
TEMP	21	24	22	1		
HUMIDITY	18	36	34	3	34	1
BAROMETER	985	985	985	0	985	1
WIND SPEED	10	28	18	4	17	1

SUDBURY #8

DATE: AUG 19 1979
SCAN TIME: 60 SEC
AVERAGING TIME: 30 MIN
LOCATION: HWY #69 & PARIS ST(04997-51443); 5.2 KM & 125DGS/INCO

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
12:52----13:22	1.9E-03 1.3E+00 3.2E-02 985	2.2E+00 1.2E-02 5.2E-02 5	2.1E-02 5.1E-03 29 267	8.2E-01 8.2E-03 43
13:02----13:32	1.7E-03 1.3E+00 3.2E-02 985	2.2E+00 1.2E-02 5.6E-02 5	1.4E-02 4.7E-03 29 265	8.1E-01 8.9E-03 42
13:12----13:42	1.6E-03 1.3E+00 3.3E-02 985	2.2E+00 1.2E-02 6.7E-02 5	4.3E-02 4.4E-03 30 275	8.1E-01 8.9E-03 40
13:22----13:52	1.5E-03 1.3E+00 3.4E-02 985	2.1E+00 1.2E-02 6.0E-02 5	4.7E-02 4.2E-03 31 285	8.4E-01 9.0E-03 38
13:32----14:02	1.7E-03 1.3E+00 3.5E-02 985	2.2E+00 1.2E-02 5.4E-02 6	4.6E-02 4.6E-03 30 279	8.6E-01 8.6E-03 39
13:42----14:12	1.6E-03 1.3E+00 3.5E-02 985	2.2E+00 1.2E-02 5.5E-02 6	1.2E-02 4.7E-03 31 293	8.5E-01 8.8E-03 38
13:52----14:22	1.6E-03 1.4E+00 3.6E-02 985	2.2E+00 1.4E-02 5.7E-02 6	1.6E-02 5.5E-03 31 303	8.3E-01 1.0E-02 36
14:02----14:32	1.7E-03 1.4E+00 3.6E-02 985	2.3E+00 1.7E-02 5.1E-02 6	9.0E-02 7.7E-03 32 318	8.1E-01 1.1E-02 33

STATISTICS

NUMBER OF READINGS 104

POLLUTANT	MINIMUM VALUE	MAXIMUM VALUE	ARITHMETIC MEAN	STANDARD DEVIATION	GEOMETRIC MEAN	GEOMETRIC STD. DEV.
H2S	5.67E-04	1.71E-02	1.96E-03	1.77E-03	1.73E-03	1.51E+00
THC	1.96E+00	5.77E+00	2.20E+00	3.85E-01	2.18E+00	1.12E+00
SO2	4.45E-03	8.34E-01	6.44E-02	1.51E-01	2.20E-02	3.42E+00
THC-CH4	6.57E-01	2.81E+00	8.33E-01	3.13E-01	8.02E-01	1.27E+00
CH4	1.30E+00	1.48E+00	1.34E+00	2.39E-02	1.34E+00	1.02E+00
NOX	8.10E-03	5.86E-02	1.38E-02	7.51E-03	1.28E-02	1.39E+00
NO2	1.00E-06	3.93E-02	5.70E-03	5.09E-03	4.07E-03	3.71E+00
NO	5.73E-03	3.59E-02	9.47E-03	4.70E-03	8.87E-03	1.37E+00
OZONE	2.87E-02	3.95E-02	3.41E-02	2.36E-03	3.40E-02	1.07E+00
SOLAR RAD	1.50E-02	9.15E-02	5.51E-02	2.74E-02	4.67E-02	1.86E+00
TEMP	27	35	31	2		
HUMIDITY	30	48	38	5	38	1
BAROMETER	985	985	985	0	985	1
WIND SPEED	1	15	6	3	6	2

SUDBURY #9

DATE: AUG 19 1979
SCAN TIME: 60 SEC
AVERAGING TIME: 30 MIN
LOCATION: HWY #69 & HWY #537(05132-51345): 21.5 KM & 125DGS/INCO

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
15:10----15:40	1.9E-03 1.4E+00 3.7E-02 990	2.1E+00 2.1E-02 3.8E-02 4	3.5E-02 1.0E-02 30 343	7.0E-01 1.4E-02 38
15:15----15:45	1.9E-03 1.4E+00 3.6E-02 990	2.1E+00 2.8E-02 4.5E-02 5	3.0E-02 1.3E-02 30 353	7.1E-01 1.8E-02 37
15:20----15:50	1.8E-03 1.4E+00 3.6E-02 990	2.1E+00 2.9E-02 5.0E-02 5	2.6E-02 1.4E-02 31 1	7.1E-01 1.8E-02 36
15:25----15:55	2.1E-03 1.4E+00 3.5E-02 990	2.1E+00 3.7E-02 5.8E-02 4	2.2E-02 1.4E-02 32 7	7.1E-01 2.8E-02 34

STATISTICS

NUMBER OF READINGS 46

POLLUTANT	MINIMUM VALUE	MAXIMUM VALUE	ARITHMETIC MEAN	STANDARD DEVIATION	GEOMETRIC MEAN	GEOMETRIC STD. DEV.
H2S	7.75E-04	9.45E-03	2.03E-03	1.22E-03	1.87E-03	1.44E+00
THC	2.02E+00	3.97E+00	2.11E+00	2.91E-01	2.10E+00	1.11E+00
SO2	7.94E-03	4.11E-02	2.63E-02	1.24E-02	2.25E-02	1.84E+00
THC-CH4	5.89E-01	2.05E+00	6.99E-01	2.41E-01	6.77E-01	1.25E+00
CH4	1.32E+00	1.50E+00	1.39E+00	2.40E-02	1.39E+00	1.02E+00
NOX	8.20E-03	1.37E-01	3.16E-02	2.74E-02	2.43E-02	2.01E+00
NO2	1.00E-06	5.55E-02	1.27E-02	1.16E-02	3.77E-03	2.06E+01
NO	5.38E-03	2.21E-01	2.26E-02	3.23E-02	1.56E-02	2.15E+00
OZONE	2.31E-02	4.23E-02	3.58E-02	5.10E-03	3.54E-02	1.16E+00
SOLAR RAD	1.77E-02	7.83E-02	4.77E-02	2.40E-02	4.12E-02	1.77E+00
TEMP	28	36	31	2		
HUMIDITY	30	43	36	4	36	1
BAROMETER	990	990	990	0	990	1
WIND SPEED	0	12	5	3	3	4

SUDBURY #10

DATE: AUG 19 1979
SCAN TIME: 60 SEC
AVERAGING TIME: 30 MIN
LOCATION: BYPASS & HWY #543(04993-51417); 6.5 KM & 145DGS/INCO

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
16:44----17:14	3.2E-03 1.3E+00 4.1E-02 983	2.0E+00 1.0E-02 5.1E-02 12	1.5E-01 3.4E-03 32 322	6.2E-01 7.9E-03 28
16:49----17:19	3.1E-03 1.3E+00 4.2E-02 983	2.0E+00 9.4E-03 5.1E-02 12	5.5E-02 3.0E-03 32 322	6.1E-01 7.6E-03 28
16:54----17:24	2.9E-03 1.3E+00 4.2E-02 983	2.0E+00 9.1E-03 5.2E-02 12	2.7E-02 3.0E-03 32 323	6.1E-01 7.4E-03 27

STATISTICS

NUMBER OF READINGS 44

POLLUTANT	MINIMUM VALUE	MAXIMUM VALUE	ARITHMETIC MEAN	STANDARD DEVIATION	GEOMETRIC MEAN	GEOMETRIC STD. DEV.
H2S	1.66E-03	4.40E-03	3.02E-03	6.68E-04	2.95E-03	1.26E+00
THC	1.93E+00	2.43E+00	1.99E+00	8.79E-02	1.99E+00	1.04E+00
SO2	4.64E-03	1.19E+00	1.04E-01	2.15E-01	2.74E-02	4.80E+00
THC-CH4	5.59E-01	8.17E-01	6.17E-01	4.98E-02	6.15E-01	1.08E+00
CH4	1.31E+00	1.35E+00	1.32E+00	8.68E-03	1.32E+00	1.01E+00
NOX	7.62E-03	1.87E-02	9.57E-03	1.84E-03	9.44E-03	1.18E+00
NO2	1.00E-06	1.02E-02	3.10E-03	1.75E-03	2.20E-03	4.08E+00
NO	5.88E-03	1.35E-02	7.69E-03	1.40E-03	7.59E-03	1.17E+00
OZONE	4.01E-02	4.31E-02	4.16E-02	6.82E-04	4.16E-02	1.02E+00
SOLAR RAD	2.45E-02	6.09E-02	5.01E-02	6.56E-03	4.95E-02	1.17E+00
TEMP	31	33	32	0		
HUMIDITY	26	30	28	1	28	1
BAROMETER	983	983	983	0	983	1
WIND SPEED	4	19	12	3	11	1

SUDBURY #11

DATE: AUG 19 1979
SCAN TIME: 60 SEC
AVERAGING TIME: 30 MIN
LOCATION: LONG LAKE SCHOOL(05005-51390); 9.5 KM & 150DGS/INCO

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
17:50----18:20	1.6E-03 1.4E+00 3.9E-02 989	2.1E+00 1.3E-02 2.7E-02 5	3.9E-02 3.8E-03 30 18	5.9E-01 1.1E-02 33
17:55----18:25	1.6E-03 1.4E+00 3.9E-02 989	2.1E+00 1.4E-02 2.2E-02 5	3.4E-02 4.7E-03 30 38	6.0E-01 1.0E-02 34
18:00----18:30	1.5E-03 1.4E+00 3.7E-02 989	2.1E+00 1.7E-02 2.1E-02 4	2.2E-02 7.6E-03 30 54	6.0E-01 1.1E-02 35
18:05----18:35	1.5E-03 1.4E+00 3.7E-02 989	2.1E+00 1.7E-02 1.9E-02 4	7.0E-03 8.0E-03 30 57	6.0E-01 1.1E-02 36

STATISTICS

NUMBER OF READINGS 46

POLLUTANT	MINIMUM VALUE	MAXIMUM VALUE	ARITHMETIC MEAN	STANDARD DEVIATION	GEOMETRIC MEAN	GEOMETRIC STD. DEV.
H2S	1.00E-06	2.84E-03	1.49E-03	5.09E-04	1.23E-03	3.11E+00
THC	2.01E+00	2.49E+00	2.08E+00	8.24E-02	2.08E+00	1.04E+00
SO2	4.85E-03	1.68E-01	2.78E-02	4.22E-02	1.34E-02	2.98E+00
THC-CH4	4.85E-01	8.01E-01	6.01E-01	4.84E-02	5.99E-01	1.08E+00
CH4	1.40E+00	1.53E+00	1.43E+00	1.98E-02	1.43E+00	1.01E+00
NOX	8.36E-03	5.57E-02	1.62E-02	9.53E-03	1.45E-02	1.54E+00
NO2	1.00E-06	4.73E-02	6.95E-03	8.89E-03	2.50E-03	1.06E+01
NO	5.80E-03	3.62E-02	1.12E-02	5.24E-03	1.04E-02	1.44E+00
OZONE	2.97E-02	4.20E-02	3.80E-02	2.93E-03	3.78E-02	1.08E+00
SOLAR RAD	9.52E-03	4.70E-02	2.43E-02	1.20E-02	2.15E-02	1.66E+00
TEMP	28	32	30	1		
HUMIDITY	29	39	34	3	34	1
BAROMETER	989	989	989	0	989	1
WIND SPEED	0	19	5	4	4	3

SUDBURY #12

DATE: AUG 19 1979
SCAN TIME: 150 SEC
AVERAGING TIME: 30 MIN
LOCATION: SHERATON HOTEL(04995-51444); 5.0 KM & 125DGS/INCO

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
19:00----19:30	1.2E-03 1.4E+00 3.3E-02 985	2.5E+00 1.3E-02 8.0E-03 0	1.3E-03 7.7E-03 28 7	1.2E+00 6.1E-03 38
19:15----19:45	1.0E-03 1.4E+00 2.7E-02 986	2.5E+00 2.0E-02 8.2E-03 0	1.5E-03 1.5E-02 27 25	1.1E+00 6.5E-03 42
19:30----20:00	9.2E-04 1.4E+00 1.8E-02 986	2.6E+00 2.9E-02 6.2E-03 0	1.8E-03 2.3E-02 26 57	1.3E+00 8.1E-03 48
19:45----20:15	1.1E-03 1.4E+00 1.2E-02 986	2.7E+00 3.4E-02 2.9E-03 0	1.6E-03 2.8E-02 25 69	1.4E+00 8.9E-03 53
20:00----20:30	1.1E-03 1.4E+00 1.6E-02 986	2.5E+00 3.1E-02 1.1E-03 3	2.8E-03 2.4E-02 24 219	1.1E+00 9.5E-03 60
20:15----20:45	1.1E-03 1.4E+00 2.2E-02 986	2.4E+00 2.7E-02 3.7E-04 6	3.1E-03 1.8E-02 23 219	1.0E+00 1.1E-02 67
20:30----21:00	1.2E-03 1.4E+00 2.1E-02 986	2.4E+00 2.8E-02 5.4E-05 6	2.0E-03 1.7E-02 23 225	9.9E-01 1.2E-02 73
20:45----21:15	1.2E-03 1.4E+00 1.9E-02 986	2.4E+00 3.2E-02 1.1E-06 6	1.8E-03 1.9E-02 22 234	1.0E+00 1.5E-02 77
21:00----21:30	1.2E-03 1.4E+00 1.6E-02 987	2.5E+00 4.0E-02 1.0E-06 4	1.8E-03 2.4E-02 22 239	1.1E+00 2.0E-02 79
21:15----21:45	1.2E-03 1.3E+00 1.5E-02 987	2.5E+00 4.2E-02 1.0E-06 4	1.8E-03 2.6E-02 21 238	1.2E+00 1.9E-02 81

SUDBURY #12, CONT'D

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
21:30----22:00	1.2E-03 1.3E+00 1.4E-02 987	2.5E+00 4.4E-02 1.0E-06 4	1.5E-03 2.8E-02 21 234	1.1E+00 1.9E-02 83
21:45----22:15	1.3E-03 1.3E+00 1.3E-02 987	2.5E+00 4.6E-02 1.0E-06 4	1.5E-03 2.8E-02 21 233	1.2E+00 2.1E-02 84
22:00----22:30	1.2E-03 1.3E+00 1.2E-02 987	2.5E+00 4.7E-02 1.0E-06 4	1.5E-03 2.9E-02 20 233	1.2E+00 2.2E-02 85
22:15----22:45	1.3E-03 1.3E+00 1.3E-02 987	2.5E+00 4.3E-02 1.0E-06 4	1.4E-03 2.8E-02 20 235	1.2E+00 1.7E-02 86
22:30----23:00	1.5E-03 1.3E+00 1.4E-02 987	2.5E+00 3.9E-02 1.7E-06 3	1.5E-03 2.5E-02 20 234	1.2E+00 1.6E-02 86
22:45----23:15	1.6E-03 1.3E+00 1.5E-02 987	2.5E+00 3.5E-02 2.5E-06 3	1.3E-03 2.3E-02 20 236	1.2E+00 1.5E-02 85
23:00----23:30	1.7E-03 1.3E+00 1.7E-02 987	2.5E+00 2.9E-02 1.9E-06 3	1.1E-03 2.1E-02 20 238	1.2E+00 1.0E-02 83
23:15----23:45	1.6E-03 1.3E+00 1.7E-02 987	2.5E+00 2.8E-02 1.1E-06 2	9.6E-04 2.1E-02 20 237	1.3E+00 8.9E-03 81
23:30----00:00	1.7E-03 1.3E+00 1.8E-02 987	2.5E+00 2.6E-02 1.1E-06 3	7.4E-04 2.1E-02 19 234	1.2E+00 7.0E-03 81
23:45----00:15	1.9E-03 1.2E+00 1.7E-02 987	2.5E+00 2.7E-02 1.0E-06 3	6.3E-04 2.1E-02 19 234	1.2E+00 7.4E-03 82
00:00----00:30	2.3E-03 1.2E+00 1.7E-02 987	2.5E+00 2.7E-02 1.0E-06 3	5.6E-04 2.1E-02 19 239	1.2E+00 8.0E-03 84

SUDBURY #12, CONT'D

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
00:15----00:45	3.0E-03 1.3E+00 1.8E-02 988	2.5E+00 2.5E-02 1.0E-06 3	5.8E-04 1.9E-02 18 245	1.3E+00 7.9E-03 85
00:30----01:00	4.2E-03 1.3E+00 1.6E-02 988	2.6E+00 3.4E-02 1.0E-06 2	6.7E-04 2.2E-02 18 246	1.3E+00 1.5E-02 85
00:45----01:15	5.7E-03 1.3E+00 1.6E-02 988	2.6E+00 3.2E-02 1.0E-06 1	5.9E-04 2.1E-02 18 245	1.3E+00 1.3E-02 87
01:00----01:30	6.3E-03 1.3E+00 1.8E-02 988	2.6E+00 2.1E-02 1.0E-06 1	3.7E-04 1.8E-02 18 244	1.3E+00 5.2E-03 87
01:15----01:45	6.2E-03 1.3E+00 1.8E-02 988	2.6E+00 2.1E-02 1.1E-06 1	2.1E-04 1.7E-02 18 245	1.3E+00 4.9E-03 88
01:30----02:00	5.6E-03 1.3E+00 2.0E-02 988	2.6E+00 1.8E-02 1.1E-06 1	1.4E-04 1.5E-02 17 249	1.3E+00 4.8E-03 90
01:45----02:15	4.8E-03 1.2E+00 1.9E-02 988	2.6E+00 2.1E-02 1.0E-06 1	7.2E-05 1.5E-02 17 255	1.4E+00 7.0E-03 91
02:00----02:30	4.4E-03 1.2E+00 1.6E-02 988	2.7E+00 2.6E-02 1.3E-06 0	2.8E-05 1.8E-02 17 258	1.4E+00 9.7E-03 92
02:15----02:45	4.1E-03 1.2E+00 1.6E-02 988	2.7E+00 2.5E-02 2.3E-06 1	3.4E-05 1.7E-02 17 248	1.4E+00 9.2E-03 93
02:30----03:00	3.8E-03 1.2E+00 1.8E-02 988	2.7E+00 2.0E-02 3.0E-06 1	2.9E-05 1.5E-02 17 248	1.4E+00 5.7E-03 93
02:45----03:15	3.6E-03 1.2E+00 1.8E-02 988	2.6E+00 1.7E-02 2.9E-06 0	2.0E-05 1.5E-02 17 283	1.4E+00 3.0E-03 93

SUDBURY #12, CONT'D

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
03:00----03:30	3.6E-03 1.2E+00 1.7E-02 988	2.6E+00 1.5E-02 4.6E-06 0	1.0E-06 1.4E-02 17 272	1.4E+00 2.5E-03 94
03:15----03:45	3.5E-03 1.2E+00 1.5E-02 988	2.6E+00 1.6E-02 6.5E-06 0	1.0E-06 1.4E-02 17 252	1.4E+00 2.5E-03 95
03:30----04:00	3.2E-03 1.2E+00 1.5E-02 988	2.6E+00 1.7E-02 6.0E-06 0	1.0E-06 1.5E-02 17 243	1.4E+00 2.7E-03 94
03:45----04:15	3.0E-03 1.2E+00 1.4E-02 988	2.6E+00 1.8E-02 4.0E-06 0	1.0E-06 1.6E-02 17 238	1.4E+00 3.0E-03 94
04:00----04:30	2.9E-03 1.2E+00 1.4E-02 988	2.6E+00 1.7E-02 1.7E-06 0	1.0E-06 1.6E-02 17 238	1.4E+00 2.5E-03 96
04:15----04:45	2.7E-03 1.2E+00 1.4E-02 987	2.5E+00 1.6E-02 1.0E-06 0	1.0E-06 1.5E-02 17 227	1.3E+00 2.3E-03 98
04:30----05:00	2.6E-03 1.2E+00 1.4E-02 987	2.6E+00 1.6E-02 1.0E-06 1	1.0E-06 1.3E-02 16 231	1.4E+00 3.2E-03 100
04:45----05:15	2.4E-03 1.2E+00 1.2E-02 987	2.7E+00 1.8E-02 1.0E-06 0	1.0E-06 1.4E-02 16 240	1.5E+00 4.9E-03 101
05:00----05:30	2.2E-03 1.2E+00 1.0E-02 987	2.8E+00 2.0E-02 1.5E-06 0	1.0E-06 1.6E-02 16 293	1.6E+00 5.1E-03 102
05:15----05:45	2.2E-03 1.2E+00 9.0E-03 987	2.7E+00 2.1E-02 1.5E-06 0	1.0E-06 1.6E-02 16 287	1.6E+00 6.0E-03 102
05:30----06:00	2.1E-03 1.2E+00 5.9E-03 987	2.7E+00 2.9E-02 1.1E-06 0	1.0E-06 1.9E-02 16 258	1.5E+00 1.3E-02 103

SUDBURY #12, CONT'D

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
05:45----06:15	2.0E-03 1.2E+00 3.1E-03 988	2.7E+00 3.2E-02 6.5E-06 0	1.0E-06 2.1E-02 16 216	1.5E+00 1.3E-02 103
06:00----06:30	2.1E-03 1.2E+00 2.4E-03 988	2.8E+00 2.4E-02 1.1E-04 0	2.0E-06 2.0E-02 15 220	1.6E+00 4.8E-03 103
06:15----06:45	2.1E-03 1.2E+00 2.0E-03 988	2.9E+00 3.0E-02 4.6E-04 0	3.6E-05 2.1E-02 15 306	1.7E+00 1.1E-02 103
06:30----07:00	2.0E-03 1.2E+00 1.9E-03 988	2.9E+00 3.8E-02 1.4E-03 0	6.7E-05 2.2E-02 15 333	1.7E+00 2.0E-02 103
06:45----07:15	2.1E-03 1.2E+00 1.8E-03 989	2.9E+00 4.4E-02 3.3E-03 0	4.0E-05 2.3E-02 16 10	1.7E+00 2.5E-02 102
07:00----07:30	2.1E-03 1.3E+00 1.6E-03 989	3.1E+00 5.7E-02 5.7E-03 0	7.2E-05 2.2E-02 16 355	1.9E+00 3.9E-02 99
07:15----07:45	1.9E-03 1.3E+00 2.5E-03 989	3.2E+00 7.2E-02 9.2E-03 0	9.1E-05 2.2E-02 17 290	2.0E+00 5.4E-02 97
07:30----08:00	1.8E-03 1.2E+00 5.8E-03 989	2.9E+00 5.9E-02 1.3E-02 0	2.8E-05 2.4E-02 18 253	1.7E+00 3.9E-02 93
07:45----08:15	1.8E-03 1.2E+00 6.0E-03 989	2.8E+00 5.4E-02 1.7E-02 0	1.0E-06 2.7E-02 19 266	1.6E+00 3.2E-02 87

STATISTICS

NUMBER OF READINGS 320

POLLUTANT	MINIMUM VALUE	MAXIMUM VALUE	ARITHMETIC MEAN	STANDARD DEVIATION	GEOMETRIC MEAN	GEOMETRIC STD. DEV.
H2S	2.63E-04	6.50E-03	2.45E-03	1.41E-03	2.11E-03	1.72E+00
THC	2.08E+00	3.99E+00	2.63E+00	2.25E-01	2.62E+00	1.08E+00
SO2	1.00E-06	5.89E-03	6.77E-04	8.73E-04	4.73E-05	3.04E+01
THC-CH4	6.25E-01	2.79E+00	1.37E+00	2.84E-01	1.34E+00	1.22E+00
CH4	1.18E+00	1.50E+00	1.28E+00	6.47E-02	1.28E+00	1.05E+00
MOX	1.02E-02	1.05E-01	3.07E-02	1.76E-02	2.68E-02	1.65E+00
NO2	4.77E-03	4.29E-02	1.99E-02	6.85E-03	1.86E-02	1.45E+00
NO	3.92E-04	8.00E-02	1.29E-02	1.46E-02	8.08E-03	2.64E+00
OZONE	6.62E-04	3.62E-02	1.40E-02	7.32E-03	1.11E-02	2.29E+00
SOLAR RAD	1.00E-06	2.18E-02	1.84E-03	4.32E-03	1.24E-05	3.73E+01
TEMP	15	29	19	3		
HUMIDITY	37	104	86	16	84	1
BAROMETER	985	989	987	1	987	1
WIND SPEED	0	11	2	2	0	6

SUDBURY #13

DATE: AUG 20 1979
SCAN TIME: 60 SEC
AVERAGING TIME: 30 MIN
LOCATION: BYPASS(05010-51423); 7.2 KM & 135DGS/INCO

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
11:19----11:49	1.5E-03 9.3E-01 2.8E-02 984	2.1E+00 5.7E-02 5.3E-02 1	2.1E-02 2.6E-02 29 105	1.1E+00 4.0E-02 54
11:29----11:59	1.5E-03 9.3E-01 2.9E-02 984	2.0E+00 6.4E-02 5.6E-02 1	2.0E-02 3.1E-02 29 122	1.0E+00 4.9E-02 52
11:39----12:09	1.3E-03 9.4E-01 2.9E-02 984	1.9E+00 6.8E-02 5.6E-02 1	1.8E-02 3.3E-02 30 143	9.6E-01 5.1E-02 49
11:49----12:19	1.5E-03 9.4E-01 3.1E-02 984	1.9E+00 7.0E-02 5.8E-02 1	1.6E-02 4.2E-02 31 193	1.1E+00 4.2E-02 45

STATISTICS

NUMBER OF READINGS 64

POLLUTANT	MINIMUM VALUE	MAXIMUM VALUE	ARITHMETIC MEAN	STANDARD DEVIATION	GEOMETRIC MEAN	GEOMETRIC STD. DEV.
H2S	6.09E-04	8.30E-03	1.55E-03	1.03E-03	1.39E-03	1.55E+00
THC	1.58E+00	4.88E+00	2.04E+00	6.61E-01	1.96E+00	1.30E+00
SO2	1.17E-02	2.68E-02	1.82E-02	3.40E-03	1.79E-02	1.21E+00
THC-CH4	6.61E-01	3.92E+00	1.11E+00	6.68E-01	9.93E-01	1.54E+00
CH4	9.02E-01	1.10E+00	9.40E-01	3.43E-02	9.40E-01	1.04E+00
NOX	1.09E-02	3.18E-01	6.35E-02	6.20E-02	4.38E-02	2.34E+00
NO2	1.00E-06	3.16E-01	3.26E-02	5.93E-02	6.05E-04	1.30E+02
NO	9.55E-03	3.61E-01	4.80E-02	5.41E-02	3.33E-02	2.28E+00
OZONE	1.50E-02	3.77E-02	2.97E-02	4.98E-03	2.92E-02	1.20E+00
SOLAR RAD	4.64E-02	7.05E-02	5.64E-02	5.69E-03	5.61E-02	1.10E+00
TEMP	26	35	30	2		
HUMIDITY	37	59	49	6	49	1
BAROMETER	984	984	984	0	984	1
WIND SPEED	0	4	1	1	1	5

SUDBURY #14

DATE: AUG 20 1979
SCAN TIME: 90 SEC
AVERAGING TIME: 30 MIN
LOCATION: BYPASS & HWY #543(04993-51420): 6.3 KM & 145DGS/INCO

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
12:35----13:05	3.1E-05 1.0E+00 3.9E-02 986	1.6E+00 1.4E-02 6.4E-02 2	3.4E-03 4.8E-03 30 349	6.1E-01 1.0E-02 32
12:50----13:20	3.9E-06 1.0E+00 4.0E-02 986	1.6E+00 1.2E-02 6.0E-02 3	6.9E-03 2.7E-03 29 316	5.9E-01 1.0E-02 33
13:05----13:35	2.6E-04 1.1E+00 3.8E-02 986	2.0E+00 3.5E-02 4.0E-02 2	1.2E-02 5.9E-03 29 302	9.5E-01 3.8E-02 36
13:20----13:50	4.1E-04 1.1E+00 3.4E-02 985	2.4E+00 5.6E-02 3.9E-02 1	1.8E-02 1.4E-02 30 204	1.0E+00 5.2E-02 36
13:35----14:05	2.1E-04 1.1E+00 3.5E-02 985	2.3E+00 4.2E-02 6.5E-02 2	1.7E-02 1.4E-02 31 218	7.8E-01 3.4E-02 33
13:50----14:20	7.9E-05 1.1E+00 3.5E-02 985	1.9E+00 3.0E-02 7.9E-02 7	9.4E-03 1.3E-02 32 220	7.2E-01 2.3E-02 33

STATISTICS

NUMBER OF READINGS 76

POLLUTANT	MINIMUM VALUE	MAXIMUM VALUE	ARITHMETIC MEAN	STANDARD DEVIATION	GEOMETRIC MEAN	GEOMETRIC STD. DEV.
H2S	1.00E-06	9.62E-03	3.63E-04	1.54E-03	2.28E-06	1.04E+01
THC	1.52E+00	6.26E+00	1.90E+00	8.58E-01	1.80E+00	1.34E+00
SO2	2.27E-03	3.14E-02	9.93E-03	7.45E-03	7.71E-03	2.04E+00
THC-CH4	4.29E-01	4.43E+00	7.39E-01	5.77E-01	6.47E-01	1.54E+00
CH4	9.99E-01	1.37E+00	1.07E+00	6.17E-02	1.07E+00	1.06E+00
NOX	9.25E-03	2.01E-01	3.07E-02	3.33E-02	2.16E-02	2.15E+00
NO2	1.00E-06	8.45E-02	9.70E-03	1.62E-02	9.21E-04	3.78E+01
NO	8.03E-03	2.09E-01	2.58E-02	3.34E-02	1.78E-02	2.11E+00
OZONE	1.52E-02	4.34E-02	3.66E-02	4.55E-03	3.63E-02	1.16E+00
SOLAR RAD	1.77E-02	8.46E-02	6.10E-02	2.28E-02	5.49E-02	1.67E+00
TEMP	28	33	30	2		
HUMIDITY	29	40	34	2	34	1
BAROMETER	985	986	985	0	985	1
WIND SPEED	0	15	4	4	2	4

SUDBURY #15

DATE: AUG 20 1979
SCAN TIME: 60 SEC
AVERAGING TIME: 30 MIN
LOCATION: PARIS ST & RAMSEY LAKE RD(05002-51460); 4.5 KM & 105DGS/INCO

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
14:49----15:19	1.5E-05 1.1E+00 3.4E-02 988	1.7E+00 2.4E-02 4.6E-03 15	7.4E-03 1.2E-02 23 22	5.6E-01 1.3E-02 59
15:04----15:34	3.6E-05 1.1E+00 3.5E-02 988	1.7E+00 2.4E-02 5.1E-03 9	6.8E-03 9.9E-03 22 39	5.6E-01 1.6E-02 66
15:19----15:49	1.5E-03 1.1E+00 2.9E-02 988	1.7E+00 3.4E-02 4.9E-03 1	8.8E-03 1.7E-02 23 152	6.3E-01 2.0E-02 66
15:34----16:04	2.1E-03 1.1E+00 2.5E-02 989	1.7E+00 4.3E-02 6.4E-03 8	1.3E-02 2.3E-02 22 230	6.1E-01 2.4E-02 67
15:49----16:19	6.3E-04 1.1E+00 2.1E-02 989	1.9E+00 5.7E-02 1.1E-02 9	2.6E-02 2.6E-02 22 240	8.5E-01 3.6E-02 71
16:04----16:34	4.8E-05 1.1E+00 1.6E-02 989	1.9E+00 7.7E-02 1.2E-02 7	4.4E-02 3.2E-02 22 248	9.4E-01 5.0E-02 72
16:19----16:49	2.1E-04 1.1E+00 1.6E-02 989	1.7E+00 7.8E-02 1.4E-02 7	4.8E-02 2.9E-02 22 250	7.3E-01 5.4E-02 73

STATISTICS

NUMBER OF READINGS 127

POLLUTANT	MINIMUM VALUE	MAXIMUM VALUE	ARITHMETIC MEAN	STANDARD DEVIATION	GEOMETRIC MEAN	GEOMETRIC STD. DEV.
H2S	1.00E-06	9.14E-03	5.75E-04	1.68E-03	8.29E-06	2.23E+01
THC	1.54E+00	3.04E+00	1.77E+00	2.22E-01	1.76E+00	1.12E+00
SO2	4.98E-03	5.92E-02	2.32E-02	1.74E-02	1.69E-02	2.28E+00
THC-CH4	4.12E-01	1.92E+00	6.92E-01	2.40E-01	6.61E-01	1.34E+00
CH4	1.04E+00	1.19E+00	1.09E+00	4.00E-02	1.09E+00	1.04E+00
NOX	1.45E-02	1.30E-01	5.00E-02	2.69E-02	4.29E-02	1.77E+00
NO2	1.00E-06	5.85E-02	2.23E-02	1.39E-02	1.41E-02	6.28E+00
NO	8.65E-03	9.70E-02	3.19E-02	2.12E-02	2.58E-02	1.93E+00
OZONE	7.11E-03	4.10E-02	2.43E-02	9.48E-03	2.24E-02	1.53E+00
SOLAR RAD	3.31E-03	1.73E-02	8.89E-03	4.66E-03	7.71E-03	1.72E+00
TEMP	21	25	22	1		
HUMIDITY	41	76	68	8	67	1
BAROMETER	988	989	989	0	989	1
WIND SPEED	0	25	9	6	7	3

SUDBURY #16

DATE: AUG 20 1979
SCAN TIME: 90 SEC
AVERAGING TIME: 30 MIN
LOCATION: SHERATON HOTEL(04995-51444); 5.0 KM & 125DGS/INCO

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
17:13----17:43	9.6E-04 1.0E+00 3.0E-02 988	2.0E+00 3.1E-02 1.7E-02 8	6.6E-02 1.7E-02 22 242	1.1E+00 1.5E-02 74
17:28----17:58	7.4E-04 1.0E+00 2.7E-02 988	1.8E+00 3.5E-02 1.4E-02 5	3.8E-02 2.0E-02 23 253	9.1E-01 1.8E-02 71
17:43----18:13	5.7E-04 1.0E+00 2.4E-02 988	1.9E+00 4.0E-02 9.7E-03 4	3.1E-02 2.4E-02 23 262	8.9E-01 1.8E-02 70
17:58----18:28	5.4E-04 1.0E+00 2.4E-02 988	2.0E+00 3.7E-02 7.8E-03 4	2.7E-02 2.3E-02 23 267	9.1E-01 1.6E-02 72
18:13----18:43	5.8E-04 1.0E+00 2.5E-02 988	2.0E+00 3.4E-02 7.2E-03 6	2.5E-02 2.1E-02 23 264	9.0E-01 1.5E-02 71
18:28----18:58	5.4E-04 1.0E+00 2.3E-02 988	2.1E+00 3.8E-02 6.9E-03 5	1.6E-02 2.2E-02 23 254	1.0E+00 1.7E-02 69
18:43----19:13	3.7E-04 1.1E+00 2.3E-02 988	2.1E+00 3.4E-02 8.5E-03 6	3.2E-03 1.8E-02 23 242	1.0E+00 1.7E-02 69
18:58----19:28	1.6E-04 1.1E+00 2.3E-02 988	2.1E+00 2.8E-02 1.1E-02 7	3.6E-04 1.6E-02 23 241	1.0E+00 1.4E-02 71
19:13----19:43	2.0E-04 1.0E+00 2.3E-02 988	2.0E+00 2.5E-02 6.9E-03 4	2.0E-04 1.4E-02 23 260	9.9E-01 1.2E-02 72
19:28----19:58	2.5E-04 9.6E-01 2.5E-02 988	2.2E+00 1.8E-02 1.5E-03 2	2.7E-05 1.1E-02 22 28	9.4E-01 7.4E-03 74

SUDBURY #16, CONT'D

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
19:43----20:13	1.3E-04 9.8E-01 2.6E-02 988	2.1E+00 1.4E-02 5.6E-04 5	3.2E-02 8.8E-03 21 55	8.5E-01 5.3E-03 83

STATISTICS

NUMBER OF READINGS 121

POLLUTANT	MINIMUM VALUE	MAXIMUM VALUE	ARITHMETIC MEAN	STANDARD DEVIATION	GEOMETRIC MEAN	GEOMETRIC STD. DEV.
H2S	1.00E-06	1.70E-03	4.63E-04	3.97E-04	1.23E-04	1.36E+01
THC	1.54E+00	7.98E+00	2.00E+00	6.08E-01	1.96E+00	1.20E+00
SO2	1.00E-06	1.98E-01	2.62E-02	3.61E-02	2.15E-03	4.92E+01
THC-CH4	5.67E-01	2.64E+00	9.54E-01	2.86E-01	9.22E-01	1.28E+00
CH4	9.35E-01	1.23E+00	1.02E+00	4.94E-02	1.02E+00	1.05E+00
NOX	9.88E-03	6.24E-02	2.94E-02	1.19E-02	2.69E-02	1.56E+00
NO2	3.05E-03	3.58E-02	1.71E-02	7.33E-03	1.54E-02	1.61E+00
NO	3.44E-03	4.18E-02	1.36E-02	6.75E-03	1.19E-02	1.70E+00
OZONE	1.25E-02	3.50E-02	2.52E-02	4.16E-03	2.48E-02	1.19E+00
SOLAR RAD	2.41E-04	2.01E-02	8.29E-03	5.72E-03	5.23E-03	3.36E+00
TEMP	20	24	22	1		
HUMIDITY	66	99	74	6	73	1
BAROMETER	988	989	988	0	988	1
WIND SPEED	0	16	6	3	4	3

SUDBURY #17

DATE: AUG 21 1979
SCAN TIME: 60 SEC
AVERAGING TIME: 30 MIN
LOCATION: HWY #536(04901-51387); 10.0 KM & 215DGS/INCO

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
14:49----15:19	5.8E-03 8.9E-01 3.9E-02 993	1.4E+00 4.7E-02 6.6E-02 2	4.5E-01 3.2E-02 27 77	6.7E-01 1.9E-02 44
14:59----15:29	7.0E-03 9.4E-01 4.0E-02 993	1.4E+00 5.5E-02 6.4E-02 2	3.9E-01 4.2E-02 28 70	7.7E-01 1.9E-02 41
15:09----15:39	7.2E-03 9.6E-01 4.3E-02 993	1.4E+00 3.8E-02 6.2E-02 1	3.7E-01 2.7E-02 28 47	6.0E-01 1.4E-02 40
15:19----15:49	7.1E-03 9.9E-01 4.4E-02 993	1.6E+00 3.8E-02 6.1E-02 1	3.2E-01 2.5E-02 28 31	5.5E-01 2.7E-02 40
15:29----15:59	6.6E-03 1.0E+00 4.4E-02 993	1.6E+00 4.0E-02 6.0E-02 1	3.4E-01 2.2E-02 28 54	4.4E-01 3.5E-02 40

STATISTICS

NUMBER OF READINGS 77

POLLUTANT	MINIMUM VALUE	MAXIMUM VALUE	ARITHMETIC MEAN	STANDARD DEVIATION	GEOMETRIC MEAN	GEOMETRIC STD. DEV.
H2S	4.17E-03	1.56E-02	6.54E-03	1.89E-03	6.34E-03	1.26E+00
THC	1.21E+00	4.88E+00	1.50E+00	6.29E-01	1.42E+00	1.32E+00
SO2	2.48E-01	5.82E-01	3.87E-01	8.08E-02	3.79E-01	1.23E+00
THC-CH4	2.99E-01	3.91E+00	5.76E-01	4.99E-01	4.86E-01	1.65E+00
CH4	8.40E-01	1.23E+00	9.63E-01	7.34E-02	9.60E-01	1.08E+00
NOX	9.75E-03	2.56E-01	4.82E-02	4.92E-02	3.24E-02	2.37E+00
NO2	1.00E-06	1.63E-01	3.24E-02	4.42E-02	5.65E-03	2.89E+01
NO	3.49E-03	2.26E-01	2.49E-02	3.70E-02	1.44E-02	2.52E+00
OZONE	3.05E-02	4.88E-02	4.19E-02	4.69E-03	4.16E-02	1.13E+00
SOLAR RAD	5.75E-02	6.92E-02	6.24E-02	3.18E-03	6.23E-02	1.05E+00
TEMP	25	31	28	2		
HUMIDITY	36	54	41	4	41	1
BAROMETER	992	993	993	0	993	1
WIND SPEED	0	8	2	2	1	4

SUDBURY #18

DATE: AUG 22 1979
SCAN TIME: 60 SEC
AVERAGING TIME: 30 MIN
LOCATION: HWY #634(04882-51597); 14.5 KM & 330DGS/INCO

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
14:44----15:14	4.4E-03 1.3E+00 5.5E-02 985	1.7E+00 1.8E-02 6.8E-02 6	5.1E-01 7.0E-03 31 192	5.3E-01 1.3E-02 18
14:49----15:19	4.7E-03 1.3E+00 5.4E-02 985	1.7E+00 1.7E-02 6.9E-02 7	5.1E-01 6.0E-03 31 190	5.2E-01 1.3E-02 18
14:54----15:24	6.5E-03 1.3E+00 5.4E-02 985	1.7E+00 1.7E-02 6.9E-02 7	5.0E-01 5.4E-03 32 189	5.1E-01 1.3E-02 18
14:59----15:29	7.0E-03 1.3E+00 5.3E-02 985	1.7E+00 1.6E-02 6.7E-02 8	4.8E-01 5.1E-03 32 186	4.7E-01 1.2E-02 18
15:04----15:34	7.9E-03 1.4E+00 5.3E-02 985	1.7E+00 1.5E-02 6.3E-02 7	4.5E-01 5.2E-03 31 184	4.6E-01 1.1E-02 18
15:09----15:39	8.0E-03 1.4E+00 5.3E-02 985	1.7E+00 1.5E-02 6.0E-02 7	4.0E-01 5.1E-03 31 184	4.6E-01 1.0E-02 19
15:14----15:44	8.1E-03 1.4E+00 5.2E-02 985	1.7E+00 1.4E-02 5.7E-02 8	2.9E-01 4.9E-03 31 186	4.4E-01 1.1E-02 19
15:19----15:49	8.1E-03 1.4E+00 5.1E-02 985	1.7E+00 1.4E-02 5.4E-02 8	2.4E-01 4.5E-03 31 184	4.4E-01 1.0E-02 19

STATISTICS

NUMBER OF READINGS 67

POLLUTANT	MINIMUM VALUE	MAXIMUM VALUE	ARITHMETIC MEAN	STANDARD DEVIATION	GEOMETRIC MEAN	GEOMETRIC STD. DEV.
H2S	2.99E-03	2.39E-02	6.17E-03	4.22E-03	5.51E-03	1.51E+00
THC	1.62E+00	2.47E+00	1.67E+00	1.08E-01	1.67E+00	1.06E+00
SO2	2.08E-02	7.93E-01	3.63E-01	2.10E-01	2.53E-01	2.99E+00
THC-CH4	3.80E-01	1.35E+00	4.81E-01	1.15E-01	4.73E-01	1.17E+00
CH4	1.09E+00	1.48E+00	1.34E+00	5.10E-02	1.34E+00	1.04E+00
NOX	9.41E-03	3.17E-02	1.56E-02	4.54E-03	1.51E-02	1.30E+00
NO2	1.00E-06	1.97E-02	5.44E-03	3.64E-03	2.78E-03	8.76E+00
NO	7.26E-03	4.89E-02	1.18E-02	6.31E-03	1.10E-02	1.37E+00
OZONE	4.53E-02	5.79E-02	5.30E-02	3.02E-03	5.29E-02	1.06E+00
SOLAR RAD	3.96E-02	7.31E-02	6.09E-02	9.20E-03	6.02E-02	1.17E+00
TEMP	30	33	31	1		
HUMIDITY	10	23	19	2	18	1
BAROMETER	985	986	985	0	985	1
WIND SPEED	0	15	7	4	6	2

SUDBURY #19

DATE: AUG 22 1979
SCAN TIME: 60 SEC
AVERAGING TIME: 30 MIN
LOCATION: HWY #634(04900-51598); 14.0 KM & 335DGS/INCO

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
16:06----16:36	4.7E-03 1.3E+00 4.9E-02 984	1.7E+00 1.0E-02 5.0E-02 9	1.8E-01 1.4E-03 29 198	4.7E-01 9.3E-03 21
16:11----16:41	4.6E-03 1.3E+00 4.9E-02 984	1.7E+00 9.7E-03 4.7E-02 9	1.2E-01 1.3E-03 29 197	4.7E-01 9.0E-03 21
16:16----16:46	4.5E-03 1.4E+00 4.9E-02 984	1.7E+00 9.3E-03 4.3E-02 10	7.5E-02 1.0E-03 29 193	4.7E-01 8.9E-03 22
16:21----16:51	4.4E-03 1.4E+00 4.8E-02 984	1.7E+00 9.1E-03 4.1E-02 9	4.6E-02 6.8E-04 29 195	4.7E-01 9.1E-03 22
16:26----16:56	4.3E-03 1.4E+00 4.8E-02 984	1.7E+00 9.0E-03 3.9E-02 9	3.7E-02 6.1E-04 29 195	4.7E-01 9.1E-03 22
16:31----17:01	4.3E-03 1.4E+00 4.8E-02 984	1.7E+00 9.2E-03 3.5E-02 9	4.3E-02 6.9E-04 29 196	4.7E-01 9.1E-03 23
16:36----17:06	4.1E-03 1.4E+00 4.7E-02 984	1.7E+00 9.1E-03 3.4E-02 10	4.1E-02 7.7E-04 29 197	4.7E-01 9.1E-03 23

STATISTICS

NUMBER OF READINGS 63

POLLUTANT	MINIMUM VALUE	MAXIMUM VALUE	ARITHMETIC MEAN	STANDARD DEVIATION	GEOMETRIC MEAN	GEOMETRIC STD. DEV.
H2S	3.35E-03	1.39E-02	4.52E-03	1.31E-03	4.42E-03	1.21E+00
THC	1.65E+00	1.69E+00	1.66E+00	7.09E-03	1.66E+00	1.00E+00
SO2	1.35E-02	7.28E-01	1.06E-01	1.32E-01	6.04E-02	2.83E+00
THC-CH4	4.58E-01	4.94E-01	4.70E-01	6.91E-03	4.70E-01	1.01E+00
CH4	1.17E+00	1.36E+00	1.35E+00	2.44E-02	1.35E+00	1.02E+00
NOX	7.56E-03	1.18E-02	9.51E-03	1.01E-03	9.46E-03	1.11E+00
NO2	1.00E-06	4.16E-03	1.09E-03	1.14E-03	1.90E-04	2.19E+01
NO	7.10E-03	1.24E-02	9.13E-03	1.03E-03	9.07E-03	1.12E+00
OZONE	4.44E-02	5.09E-02	4.82E-02	1.55E-03	4.82E-02	1.03E+00
SOLAR RAD	2.40E-02	5.59E-02	4.20E-02	9.51E-03	4.03E-02	1.28E+00
TEMP	28	30	29	1		
HUMIDITY	18	30	23	2	23	1
BAROMETER	984	984	984	0	984	1
WIND SPEED	3	15	10	3	9	1

SUDBURY #20

DATE: AUG 22 1979
SCAN TIME: 60 SEC
AVERAGING TIME: 30 MIN
LOCATION: BONINVILLE(X4940-51599): 13.0 KM & 350DGS/INCO

TIME	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY	CH4 OZONE BAROMETER
17:28----17:58	1.7E+00 1.2E-02 3.2E-02 11	2.7E-01 2.9E-03 27 220	5.1E-01 9.3E-03 29	1.4E+00 4.5E-02 983
17:33----18:03	1.7E+00 1.1E-02 2.9E-02 10	2.5E-01 3.0E-03 27 220	5.3E-01 9.2E-03 30	1.4E+00 4.5E-02 983
17:38----18:08	1.7E+00 1.1E-02 2.5E-02 10	1.9E-01 2.6E-03 27 217	5.4E-01 9.3E-03 32	1.3E+00 4.4E-02 983
17:43----18:13	1.7E+00 1.1E-02 2.1E-02 9	1.0E-01 2.2E-03 26 217	5.5E-01 9.3E-03 34	1.3E+00 4.3E-02 983

STATISTICS

NUMBER OF READINGS 49

POLLUTANT	MINIMUM VALUE	MAXIMUM VALUE	ARITHMETIC MEAN	STANDARD DEVIATION	GEOMETRIC MEAN	GEOMETRIC STD. DEV.
THC	1.63E+00	1.84E+00	1.69E+00	5.85E-02	1.69E+00	1.03E+00
SO2	1.50E-02	6.71E-01	1.75E-01	1.98E-01	8.01E-02	3.81E+00
THC-CH4	3.86E-01	1.48E+00	5.23E-01	1.45E-01	5.12E-01	1.19E+00
CH4	1.21E+00	1.59E+00	1.33E+00	1.22E-01	1.33E+00	1.09E+00
NOX	9.22E-03	1.55E-02	1.13E-02	1.26E-03	1.12E-02	1.11E+00
NO2	1.00E-06	9.19E-03	2.82E-03	1.67E-03	1.82E-03	5.34E+00
NO	7.71E-03	1.19E-02	9.27E-03	8.90E-04	9.23E-03	1.10E+00
OZONE	3.47E-02	4.85E-02	4.32E-02	3.47E-03	4.31E-02	1.09E+00
SOLAR RAD	1.02E-02	4.30E-02	2.52E-02	1.05E-02	2.28E-02	1.60E+00
TEMP	24	28	26	1		
HUMIDITY	24	46	33	6	32	1
BAROMETER	983	983	983	0	983	1
WIND SPEED	5	16	9	3	9	1

SUDBURY #21

DATE: AUG 25 1979
SCAN TIME: 60 SEC
AVERAGING TIME: 30 MIN
LOCATION: SECOND AVE AT ASEA(05049-51497); 9.6 KM & 075DGS/INCO

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
12:29----12:59	4.8E-03 1.3E+00 3.0E-02 980	1.9E+00 1.6E-02 2.6E-02 23	1.6E-01 5.2E-03 21 260	7.2E-01 1.4E-02 63
12:39----13:09	4.8E-03 1.3E+00 2.9E-02 980	1.9E+00 1.5E-02 3.0E-02 22	1.3E-01 6.1E-03 21 258	7.0E-01 1.2E-02 63
12:49----13:19	4.8E-03 1.3E+00 2.9E-02 980	1.9E+00 1.6E-02 3.4E-02 21	9.8E-02 8.1E-03 21 253	7.0E-01 1.1E-02 62
12:59----13:29	6.2E-03 1.3E+00 2.9E-02 980	1.9E+00 1.6E-02 3.5E-02 20	1.3E-01 8.0E-03 21 252	6.9E-01 1.2E-02 61
13:09----13:39	6.2E-03 1.3E+00 2.9E-02 980	1.9E+00 1.7E-02 3.2E-02 20	1.7E-01 7.4E-03 21 250	6.9E-01 1.4E-02 61
13:19----13:49	6.3E-03 1.3E+00 2.9E-02 980	1.9E+00 1.6E-02 2.6E-02 19	1.6E-01 6.6E-03 21 247	7.0E-01 1.4E-02 60

STATISTICS

NUMBER OF READINGS 21

POLLUTANT	MINIMUM VALUE	MAXIMUM VALUE	ARITHMETIC MEAN	STANDARD DEVIATION	GEOMETRIC MEAN	GEOMETRIC STD. DEV.
H2S	4.41E-03	4.98E-02	5.34E-03	5.01E-03	4.92E-03	1.20E+00
THC	1.83E+00	2.03E+00	1.88E+00	5.13E-02	1.88E+00	1.03E+00
SO2	1.17E-02	6.63E-01	1.37E-01	1.26E-01	8.64E-02	2.88E+00
THC-CH4	6.59E-01	9.10E-01	7.03E-01	4.07E-02	7.02E-01	1.06E+00
CH4	1.24E+00	1.36E+00	1.26E+00	1.53E-02	1.26E+00	1.01E+00
NOX	4.98E-03	9.14E-02	1.62E-02	1.10E-02	1.42E-02	1.61E+00
NO2	1.00E-06	8.24E-02	6.50E-03	1.11E-02	5.18E-04	4.87E+01
NO	2.67E-03	6.11E-02	1.31E-02	8.71E-03	1.11E-02	1.75E+00
OZONE	2.59E-02	3.21E-02	2.93E-02	1.21E-03	2.93E-02	1.04E+00
SOLAR RAD	1.17E-02	5.39E-02	2.83E-02	8.22E-03	2.71E-02	1.37E+00
TEMP	20	22	21	0		
HUMIDITY	34	68	61	4	61	1
BAROMETER	980	981	980	0	980	1
WIND SPEED	10	35	21	5	20	1

SUDBURY #22

DATE: AUG 25 1979
SCAN TIME: 60 SEC
AVERAGING TIME: 30 MIN
LOCATION: BARRYDOWNE RD & HWY #17(0504)-5150(): 9.0 KM & 075DGS/INCO

TIME	H2S CH4 OZONE BAROMETER	THC NOX SOLAR RAD WIND SPEED	SO2 NO2 TEMP WIND DIRECTION	THC-CH4 NO HUMIDITY
14:15----14:45	5.2E-03 1.3E+00 2.0E-02 983	2.6E+00 7.7E-02 1.7E-02 19	4.6E-02 3.3E-02 20 244	1.3E+00 5.0E-02 66
14:30----15:00	5.0E-03 1.3E+00 1.9E-02 983	2.0E+00 7.8E-02 1.0E-02 20	5.0E-02 3.3E-02 20 247	8.4E-01 5.3E-02 67
14:45----15:15	4.9E-03 1.3E+00 1.8E-02 983	2.0E+00 7.6E-02 7.0E-03 22	1.7E-02 3.4E-02 20 244	8.4E-01 5.0E-02 67
15:00----15:30	5.2E-03 1.3E+00 1.7E-02 983	2.1E+00 7.3E-02 1.1E-02 22	1.6E-02 2.7E-02 19 243	8.6E-01 5.7E-02 67
15:15----15:45	4.9E-03 1.3E+00 2.0E-02 983	2.0E+00 5.7E-02 1.2E-02 20	2.9E-02 1.7E-02 19 253	8.0E-01 5.2E-02 66
15:30----16:00	4.0E-03 1.3E+00 2.5E-02 983	1.9E+00 4.0E-02 1.4E-02 20	2.0E-02 9.8E-03 19 256	7.1E-01 4.0E-02 66
15:45----16:15	3.9E-03 1.3E+00 2.7E-02 984	1.9E+00 3.8E-02 1.9E-02 17	1.1E-02 9.7E-03 20 259	7.2E-01 3.5E-02 65
16:00----16:30	3.5E-03 1.3E+00 2.7E-02 984	1.9E+00 4.0E-02 2.4E-02 15	9.6E-03 1.2E-02 21 264	7.3E-01 3.5E-02 64
16:15----16:45	3.2E-03 1.3E+00 2.6E-02 984	1.9E+00 4.6E-02 2.7E-02 17	4.9E-03 1.8E-02 20 256	7.3E-01 3.9E-02 63
16:30----17:00	3.3E-03 1.3E+00 2.6E-02 984	1.9E+00 4.0E-02 1.9E-02 19	4.0E-03 1.5E-02 20 254	7.1E-01 3.5E-02 63

SUDBURY #22, CONT'D

TIME

H2S
CH4
OZONE
BAROMETER

THC
NOX
SOLAR RAD
WIND SPEED

SO2
NO2
TEMP
WIND DIRECTION

THC-CH4
NO
HUMIDITY

STATISTICS

NUMBER OF READINGS 165

POLLUTANT	MINIMUM VALUE	MAXIMUM VALUE	ARITHMETIC MEAN	STANDARD DEVIATION	GEOMETRIC MEAN	GEOMETRIC STD. DEV
H2S	2.58E-03	1.58E-02	4.30E-03	1.41E-03	4.14E-03	1.36E+01
THC	1.82E+00	6.15E+00	2.08E+00	5.03E-01	2.04E+00	1.26E+01
SO2	1.83E-03	2.52E-01	1.99E-02	3.20E-02	1.07E-02	2.74E+01
THC-CH4	6.33E-01	4.52E+00	8.69E-01	4.74E-01	8.17E-01	1.34E+01
CH4	1.22E+00	1.40E+00	1.27E+00	1.97E-02	1.27E+00	1.02E+01
NOX	1.15E-02	1.54E-01	5.61E-02	2.78E-02	4.99E-02	1.69E+01
NO2	1.00E-06	9.10E-02	2.09E-02	2.19E-02	1.61E-03	5.16E+0
NO	3.00E-03	1.28E-01	4.37E-02	2.27E-02	3.77E-02	1.80E+01
OZONE	9.82E-03	3.11E-02	2.26E-02	5.02E-03	2.20E-02	1.28E+01
SOLAR RAD	4.09E-03	3.95E-02	1.61E-02	8.11E-03	1.42E-02	1.68E+01
TEMP	18	21	20	1		
HUMIDITY	44	69	65	2	65	1
BAROMETER	983	984	983	0	983	1
WIND SPEED	9	35	19	5	19	1

TD
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